ISO/IEC JTC1/SC2/WG2 **N5335R**
LUCP L-2535

Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Internationale Standardisierungs-Organisation
Organisation Internationale de Normalisation
Διεθνής Οργανισμός Τυποποίησης
Международная организация по стандартизации

Doc Type: Working Group Document

Title: Proposal to encode 6 letterlike symbols

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Version: 2nd version
Status: forward to Script Encoding Working Group / WG2
Action: for expert review and Unicode 18.0 pipeline
Date: November 25, 2025
Requester’s reference: LUCP L-2535

1. Background

This proposal is part of the research program upon historical mathematical sources, conducted by the CNRS Philiumm project (headed by Prof. David Rabouin, University of Paris) and supported by researchers from the Landesbibliothek Hanover (Germany). The aim of this project work is to achieve a standardized encoding for special mathematical characters in historic texts, which is required for accurate facsilime editions of those sources.
For more background information about the Philiumm project and the related research work, please visit the Philiumm website or see doc. no. N5277.

2. Letterlike symbols in historic sources

Mainly letters of the Latin and Greek alphabets have been transformed in many ways in order to get distinguishable symbols for specific purposes. A usual method of abbreviating frequently occuring words was by attaching some sort of extra marking to a base letter; this can be a stroke or slash, a loop or other details. Monetary symbols fall into the category of peculiar shaped abbreviation letters, which became standard for a particular connotation (e.g. £ for *libra/pound,* @ for *at,* ℞ for *Recipe)*.
A central question for the characters proposed here is, wether to encode them

a) as **letters** or
b) as **symbols**.

We will explain for each case, why we think a) or b) would be appropriate. By their origin, some of the proposed characters are derived from Latin letters, some are derived from Greek letters. One case is of a Greek-Latin hybrid nature.

Revision remark: There are two changes made: a) the Ð character has been identified as an abbreviation ligature (or monogram) and was given a new glyph and name; b) the Greek capital Ȣ has been dropped from this version.

3. Characters

If this proposal gets accepted, the following characters will exist:

 ALPHA X SYMBOL

 FUNCTIO DIFFERENTIATA SYMBOL

 DOUBLE X SYMBOL

 DOUBLE SMALL SIGMA SYMBOL

 GREEK SMALL LETTER OMICRON UPSILON

For one character we propose a variation sequence:

 LOWERCASE KURRENT X – *variation sequence to U+1D4CD*

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online

Leibniz-Akademie-Ausgabe (LAA, general edition of Leibniz's writings)

LAA series VII (mathematical manuscripts, volumes 3 to 7 available online)

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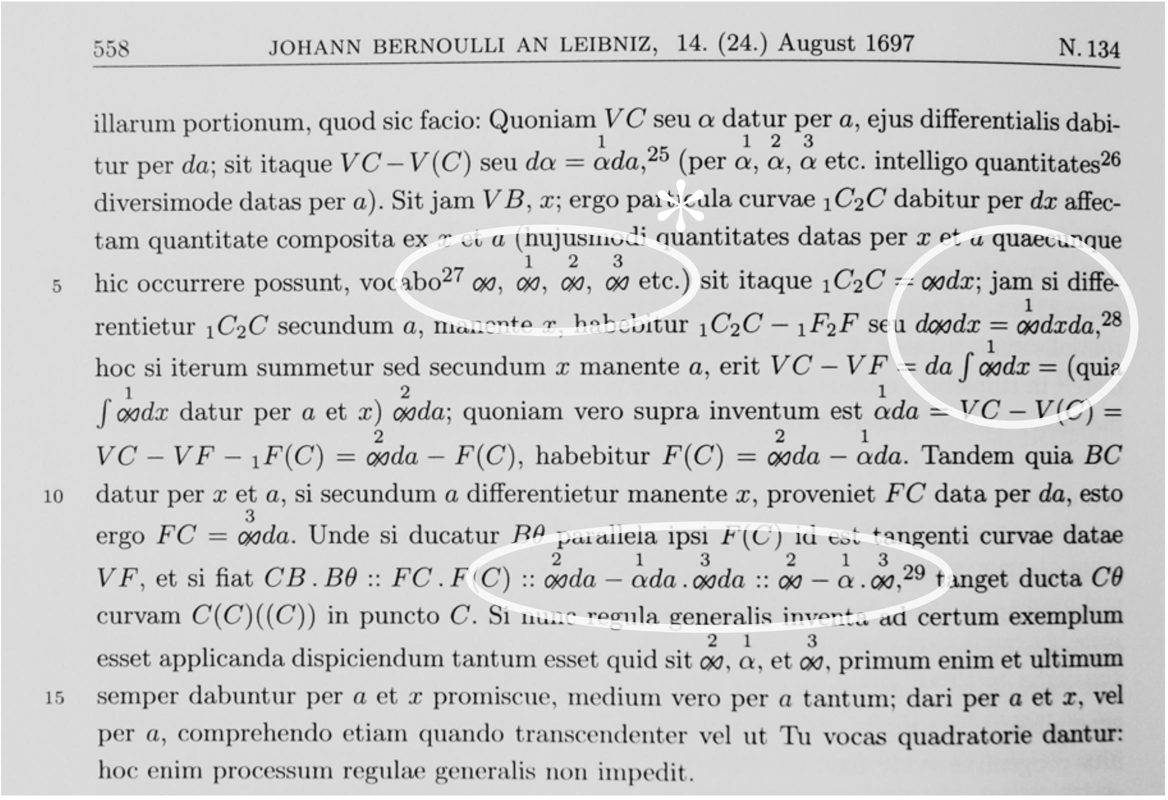
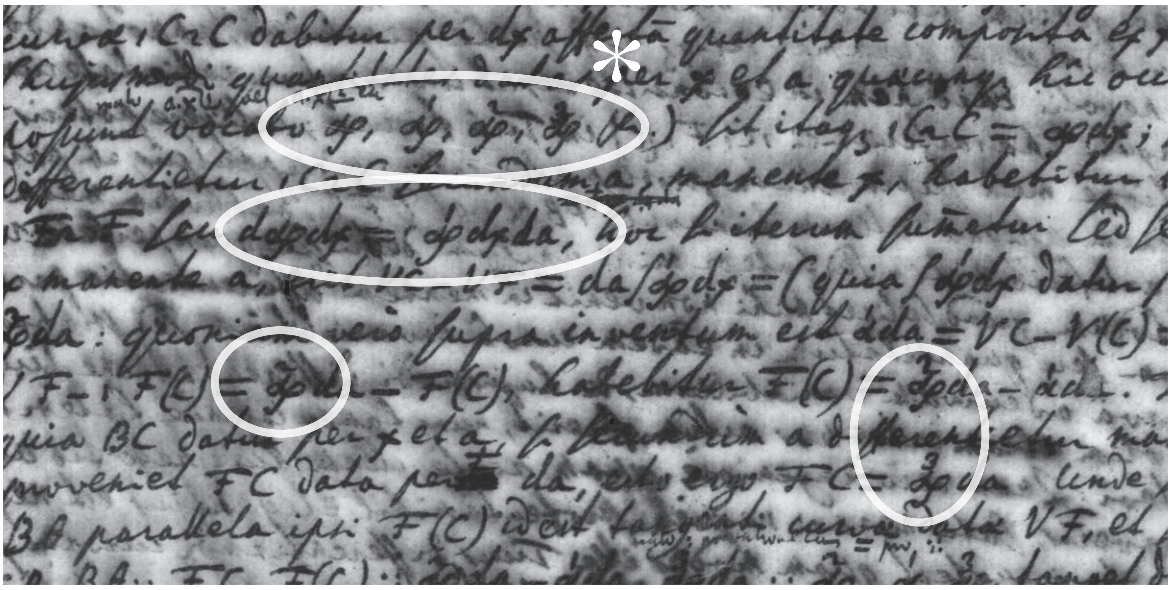
4. Figures and explanations



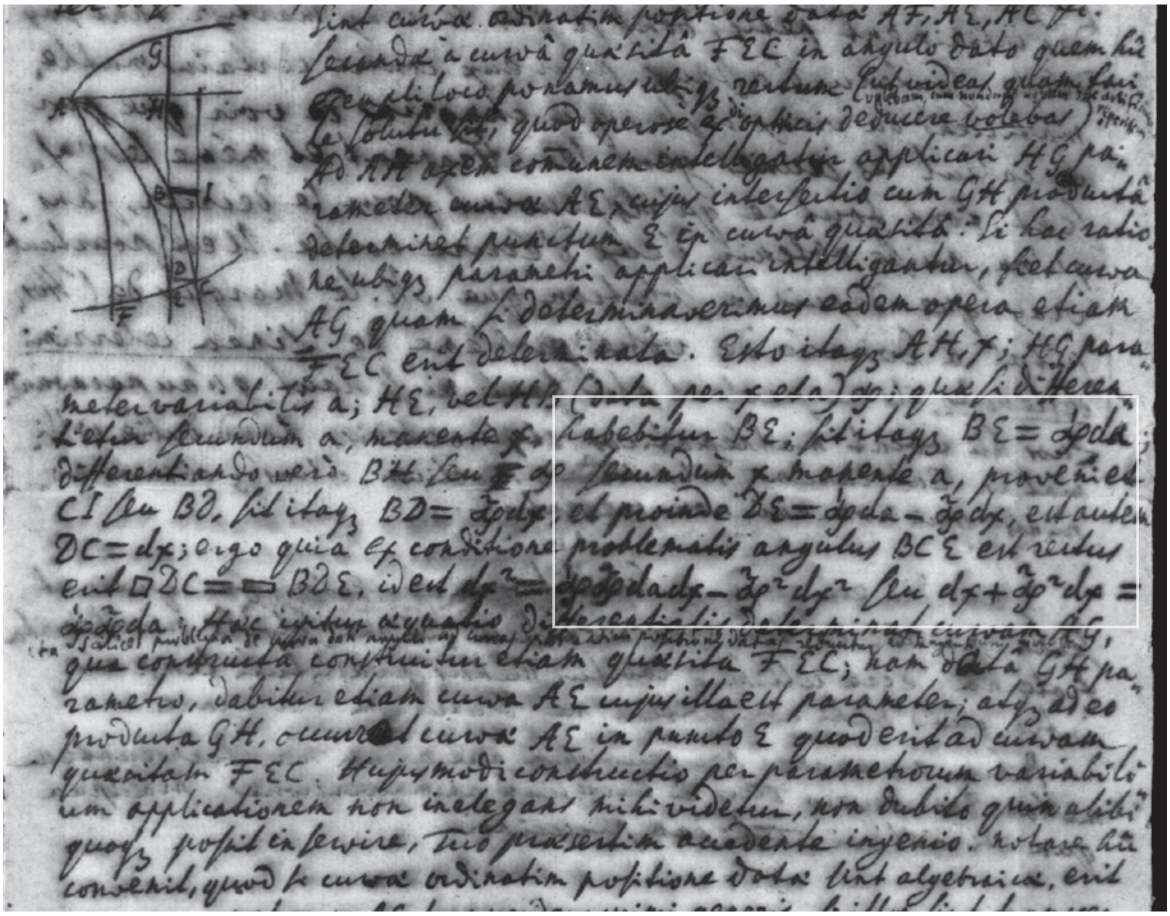
558 JOHANN BERNOULLI AN LEIBNIZ, 14. (24.) August 1697 N. 134

illarum portionum, quod sic facio: Quoniam VC seu α datur per a, ejus differentialis dabitur per da; sit itaque $VC - V(C)$ seu $d\alpha = \overset{1}{\alpha}da$,[25] (per $\overset{1}{\alpha}$, $\overset{2}{\alpha}$, $\overset{3}{\alpha}$ etc. intelligo quantitates[26] diversimode datas per a). Sit jam VB, x; ergo particula curvae ${}_1C_2C$ dabitur per dx affectam quantitate composita ex x et a (hujusmodi quantitates datas per x et a quaecunque hic occurrere possunt, vocabo[27] $\alpha\!x$, $\overset{1}{\alpha\!x}$, $\overset{2}{\alpha\!x}$, $\overset{3}{\alpha\!x}$ etc.) sit itaque ${}_1C_2C = \alpha\!x dx$; jam si differentietur ${}_1C_2C$ secundum a, manente x, habebitur ${}_1C_2C - {}_1F_2F$ seu $d\alpha\!x dx = \overset{1}{\alpha\!x}dxda$,[28] hoc si iterum summetur sed secundum x manente a, erit $VC - VF = da \int \overset{1}{\alpha\!x}dx =$ (quia $\int \overset{1}{\alpha\!x}dx$ datur per a et x) $\overset{2}{\alpha\!x}da$; quoniam vero supra inventum est $\overset{1}{\alpha}da = VC - V(C) = VC - VF - {}_1F(C) = \overset{2}{\alpha\!x}da - F(C)$, habebitur $F(C) = \overset{2}{\alpha\!x}da - \overset{1}{\alpha}da$. Tandem quia BC datur per x et a, si secundum a differentietur manente x, proveniet FC data per da, esto ergo $FC = \overset{3}{\alpha\!x}da$. Unde si ducatur $B\theta$ parallela ipsi $F(C)$ id est tangenti curvae datae VF, et si fiat $CB \,.\, B\theta :: FC \,.\, F(C) :: \overset{2}{\alpha\!x}da - \overset{1}{\alpha}da \,.\, \overset{3}{\alpha\!x}da :: \overset{2}{\alpha\!x} - \overset{1}{\alpha} \,.\, \overset{3}{\alpha\!x}$,[29] tanget ducta $C\theta$ curvam $C(C)((C))$ in puncto C. Si nunc regula generalis inventa ad certum exemplum esset applicanda dispiciendum tantum esset quid sit $\overset{2}{\alpha\!x}$, $\overset{1}{\alpha}$, et $\overset{3}{\alpha\!x}$, primum enim et ultimum semper dabuntur per a et x promiscue, medium vero per a tantum; dari per a et x, vel per a, comprehendo etiam quando transcendenter vel ut Tu vocas quadratorie dantur: hoc enim processum regulae generalis non impedit.

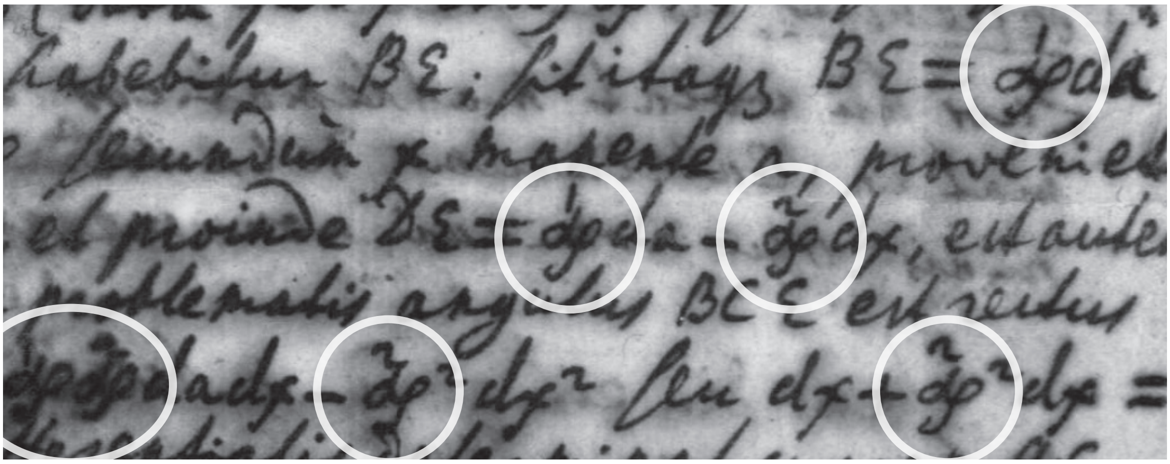
$\alpha\!x$ ALPHA X SYMBOL
The author Johann (I) Bernoulli (1667–1748) uses α for ‘a quantity depending on a’. In analogy, he merges α and x into one new symbol to denote a ‘quantity depending on the variables a and x’ (in modern terminology ‘a function in a and x’). LAA III-7 p. 558

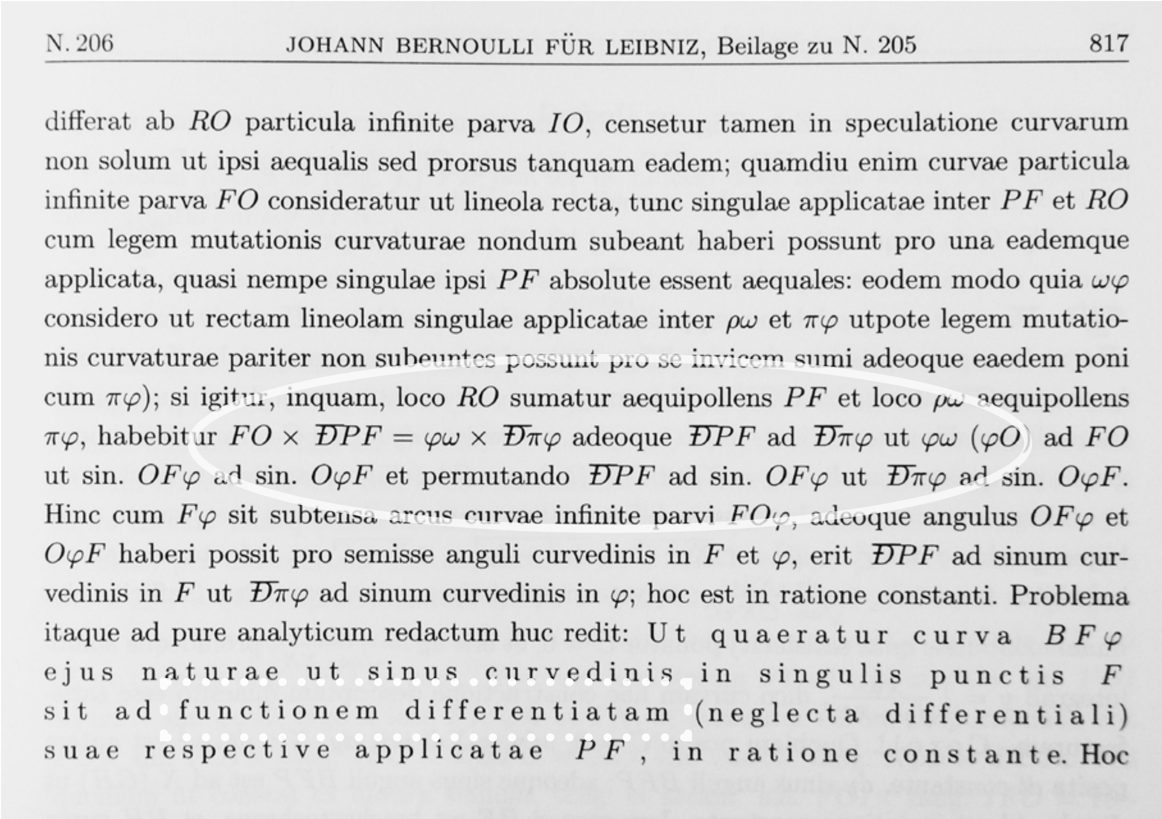


$\alpha\!x$ ALPHA X SYMBOL
Handwriting of Johann Bernoulli, in a letter to G. W. Leibniz, 1697. The corresponding part of text to the image above. GWLB, LBr. 57,1 211v



ALPHA X SYMBOL
Handwriting of Johann Bernoulli, in a letter to G. W. Leibniz, 1697.
GWLB, LBr. 57,1 212r

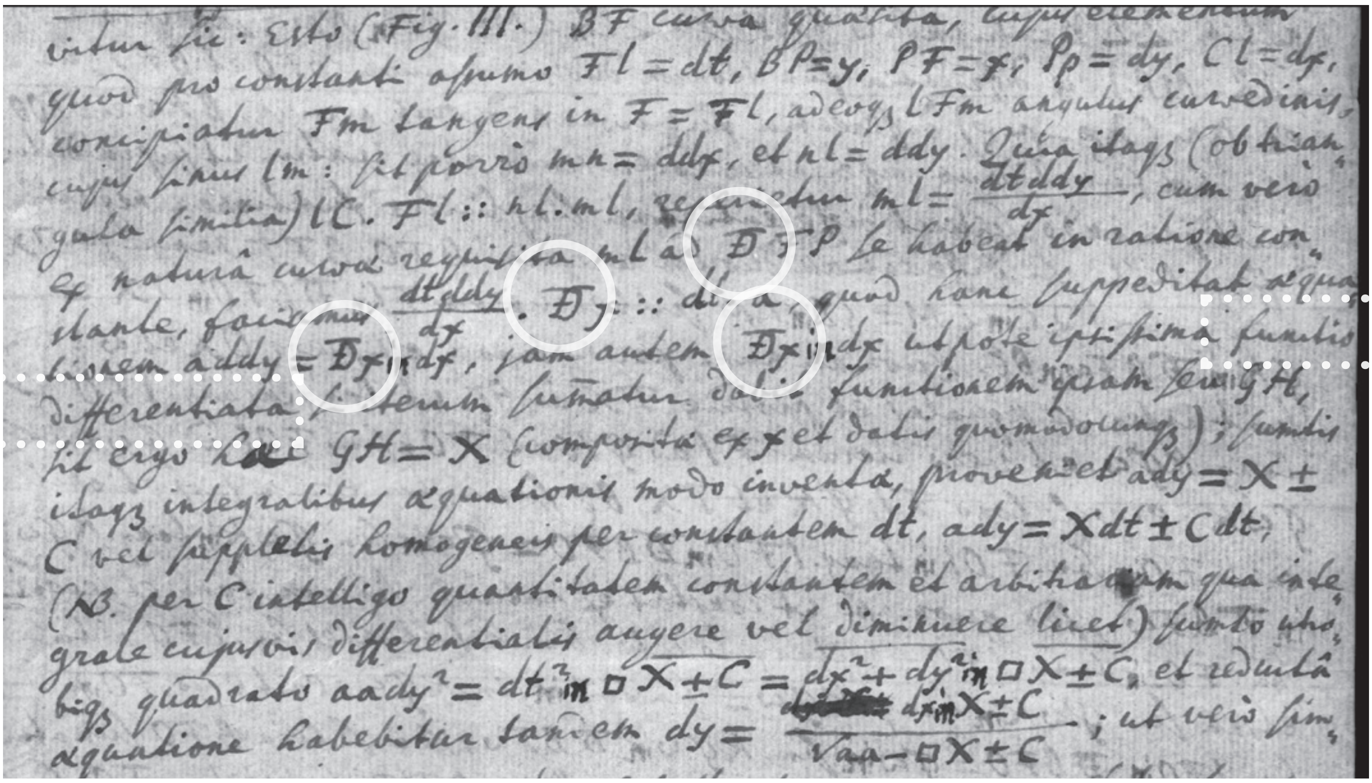




differat ab RO particula infinite parva IO, censetur tamen in speculatione curvarum non solum ut ipsi aequalis sed prorsus tanquam eadem; quamdiu enim curvae particula infinite parva FO consideratur ut lineola recta, tunc singulae applicatae inter PF et RO cum legem mutationis curvaturae nondum subeant haberi possunt pro una eademque applicata, quasi nempe singulae ipsi PF absolute essent aequales: eodem modo quia $\omega\varphi$ considero ut rectam lineolam singulae applicatae inter $\rho\omega$ et $\pi\varphi$ utpote legem mutationis curvaturae pariter non subeuntes possunt pro se invicem sumi adeoque eaedem poni cum $\pi\varphi$); si igitur, inquam, loco RO sumatur aequipollens PF et loco $\rho\omega$ aequipollens $\pi\varphi$, habebitur $FO \times ƉPF = \varphi\omega \times Ɖ\pi\varphi$ adeoque $ƉPF$ ad $Ɖ\pi\varphi$ ut $\varphi\omega$ (φO) ad FO ut sin. $OF\varphi$ ad sin. $O\varphi F$ et permutando $ƉPF$ ad sin. $OF\varphi$ ut $Ɖ\pi\varphi$ ad sin. $O\varphi F$. Hinc cum $F\varphi$ sit subtensa arcus curvae infinite parvi $FO\varphi$, adeoque angulus $OF\varphi$ et $O\varphi F$ haberi possit pro semisse anguli curvedinis in F et φ, erit $ƉPF$ ad sinum curvedinis in F ut $Ɖ\pi\varphi$ ad sinum curvedinis in φ; hoc est in ratione constanti. Problema itaque ad pure analyticum redactum huc redit: Ut quaeratur curva $BF\varphi$ ejus naturae ut sinus curvedinis in singulis punctis F sit ad functionem differentiatam (neglecta differentiali) suae respective applicatae PF, in ratione constante. Hoc

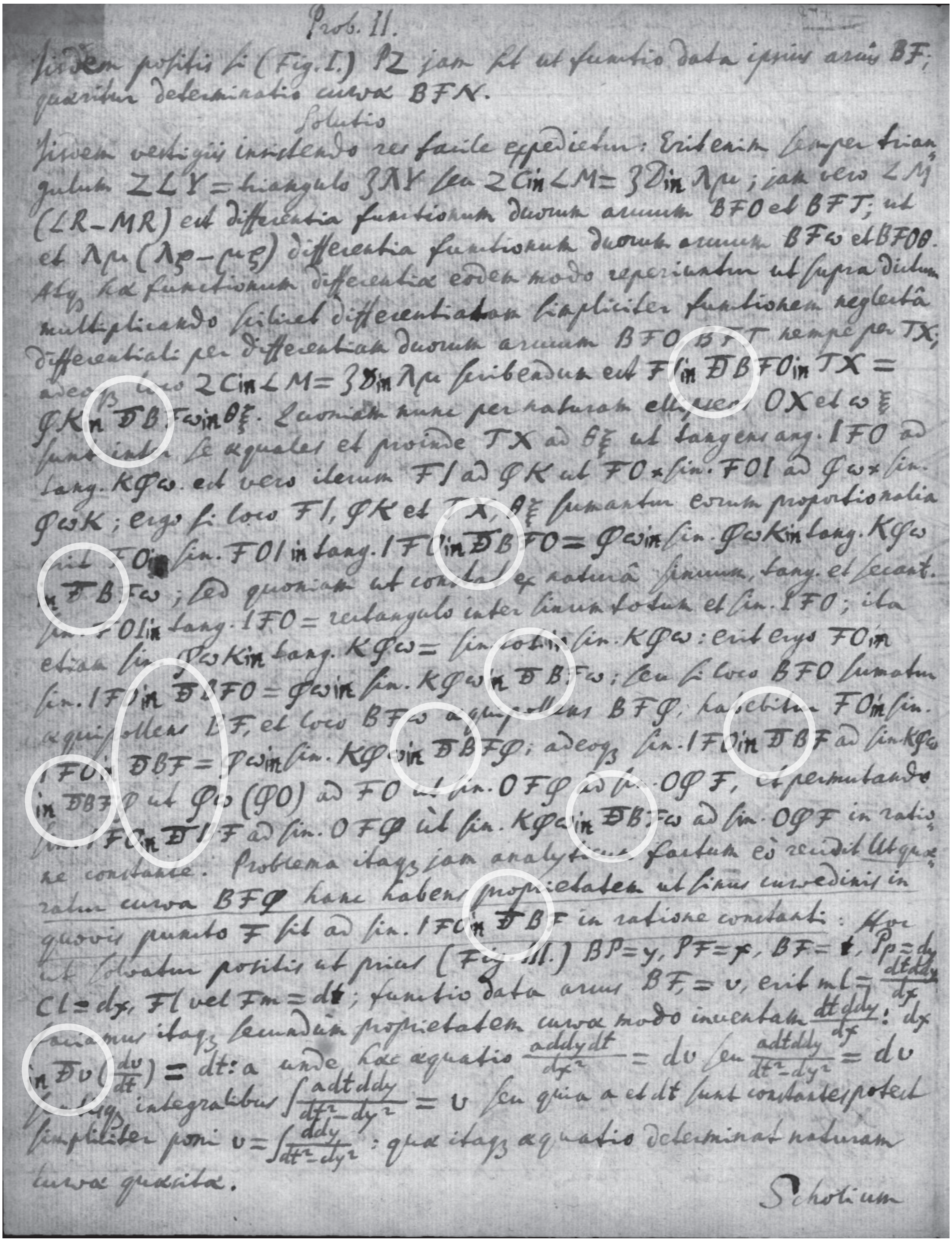
Ɖ FUNCTIO DIFFERENTIATA SYMBOL

Another special symbol invented by Johann Bernoulli: a monogram built of capital F and D is used here to denote the *Functio Differentiata*. – LAA III-7 p. 817


vitur sic: Esto (Fig. III.) BF curva quaesita, cujus elementum quod pro constanti assumo Fl = dt, BP = y, PF = x, Pp = dy, Cl = dx, concipiatur Fm tangens in F = Fl, adeoque lFm angulus curvedinis, cujus sinus lm: sit porro mn = ddx, et nl = ddy. Quia itaque (ob triang. similitud.) lC. Fl :: nl. ml, erit ml = dt ddy / dx, cum vero ex natura curvae requisita ml ad Ɖ P se habeat in ratione constante, fiet dt ddy / dx . Ɖ y :: dt . a, quod hanc suppeditat aequationem addy = Ɖ x dx, jam autem Ɖ x in dx utpote ipsissima functio differentiata, … sumatur … functionem quam voco GH, sit ergo GH = X (composita ex x et datis quomodocunque); sumtis itaque integralibus aequationis modo inventa, proveniet ady = X ± C vel supplelis homogeneis per constantem dt, ady = X dt ± C dt, (NB. per C intelligo quantitatem constantem et arbitrariam qua integrale cujusvis differentialis augere vel diminuere licet) sumto utrobique quadrato aady² = dt² in □ X ± C = dx² + dy² in □ X ± C, et reducta aequatione habebitur tandem dy = dx in X ± C / √(aa − □ X ± C); ut vero sim.

Ɖ FUNCTIO DIFFERENTIATA SYMBOL

From a letter by Johann Bernoulli to G. W. Leibniz; LBr. 57,1 fol. 242r



Ð FUNCTIO DIFFERENTIATA SYMBOL
From the same letter by Johann Bernoulli to G. W. Leibniz; LBr. 57,1 fol. 242v

Et ut compendio consulamus licebit ☽ ita enuntiare: $\dfrac{\frac{l}{a}y^2+\lambda y+\pi a}{y^2+\varrho y+\sigma\!\varsigma a}\ \dfrac{☽}{☿}$. Tantum ergo notemus; $\underline{\varepsilon}$ pendere ex e. $\underline{\varrho}$ ex r. $\underline{\sigma\!\varsigma}$ ex r et s. $\underline{\lambda}$ ex l et n. et $\underline{\pi}$ ex $l.n.p.$ Igitur $\dfrac{⊙☿+☽♀}{♀☿}$ faciet:

$$
\begin{array}{l}
ǂ\left\{\begin{array}{l} pay^2 \\ +\varrho n\ ..+\ \varrho pay \\ +\sigma\!\varsigma l\ ..+\sigma\!\varsigma an..+\sigma\!\varsigma a^2p \end{array}\right\} \sqcap ⊙☿ \\
‡\left\{\begin{array}{l} +\pi a\ .. \\ +r\lambda\ ..+\ r\pi a.. \\ +\ sl\ ..+\ sa\lambda..+\ sa^2\pi \end{array}\right\} \sqcap ☽♀
\end{array}
$$

Sed iam ex numeratore ⊙☿ + ☽♀ intelligo conferendo cum calculo superiore, nullum hic a compendio seu brachylogia haberi lucrum, nisi forte in nominatore, cum hic per brachylogiam tantum novem habeantur quantitates, partes formulae, supra vero 14. Itaque retento superiore numeratore, quia nullum a comprehensione seu brachylogia lucrum, nominatorem novum adhibeamus, multiplicando: $y^2+ry+sa$, per $y^2\varrho y+\sigma\!\varsigma a$. Sed ne in lapsum proclives simus describendo ob affinitatem r et ϱ, et s et $\sigma\!\varsigma$, satius ergo pro ϱ adhibere φ et pro $\sigma\!\varsigma$ adhibere, γ. et $y^2+ry+sa$, multiplicata per $y^2+\varphi y+\gamma a$, dabit:

σς DOUBLE SMALL SIGMA SYMBOL

Leibniz used this symbol for a quantity in the same way as he used Roman letters or other Greek letters, such as gamma, epsilon, lambda, pi, phi or omega; as shown in this example.

LAA VII-3 p. 643

The shape of this character evolves when two small Sigmas – σ σ – are written as a ligature in one movement: σς. Alternative name options for DOUBLE SMALL SIGMA SYMBOL are:

SMALL SIGMA SIGMA SYMBOL (char. property: Sm),

GREEK SMALL LIGATURE SIGMA SIGMA (char. property: Ll).

$$a \overset{(1)}{\sqcap} \frac{2y}{1}. \qquad \sigma\!\varsigma \overset{(2)}{\sqcap} 2y.$$

$$a \overset{(3)}{\sqcap} \frac{2y}{1}-\frac{2y^3}{3}. \qquad \sigma\!\varsigma \overset{(4)}{\sqcap} \underbrace{2y-2y^3}_{a}.$$

$$\frac{2y^3}{3} \overset{(5)}{\sqcap} \frac{2y}{1} - a \text{ ex } 3$$

$$\text{arc} \sqcap \frac{2y}{1}. \qquad \sigma\!\varsigma \sqcap \frac{2y}{1+y^2}. \qquad y^2 \sqcap \frac{a^2}{4}. \qquad \sigma\!\varsigma \sqcap \frac{8y}{4+a^2}.$$

$$\text{arc} \sqcap 2y-\frac{2y^3}{3}. \qquad \sigma\!\varsigma \sqcap \frac{4a}{4+a^2}.$$

Si tangens y, arcus a, erit $a \sqcap \frac{y}{1}-\frac{y^3}{3}+\frac{y^5}{5}-\frac{y^7}{7}$ etc.

et duplus arcus erit $2a \sqcap \frac{2y}{1}-\frac{2y^3}{3}+\frac{2y^5}{5}-\frac{2y^7}{7}$ etc.

σς DOUBLE SMALL SIGMA SYMBOL – LAA VII-6 p. 376

$$-♂^2 \sqcap \frac{-d^2+2d☿-☿^2}{4}.\ \text{Ergo } ca \sqcap \boxed{\mp\frac{a}{q}♀^2} + 2a♀ \pm \frac{\boxed{2}a}{q}♀^2 \frac{-d^2\boxed{+2d☿}-☿^2}{4}\ \frac{\boxed{-d☿}+☿^2}{2}.$$

Ergo $\frac{ca}{+d^2} \sqcap 2a♀ \pm \frac{a}{q}♀^2 + \frac{☿^2}{4}$. Ergo $\frac{\left\{\begin{matrix} ca \\ +d^2 \end{matrix}\right.}{2} \sqcap 2a♀ \mp \frac{a}{q}♀^2$ vel $\sqcap \frac{☿^2}{4}$. Quod profecto elegans est theorema. $s \sqcap \frac{☿^2}{4♀}$.

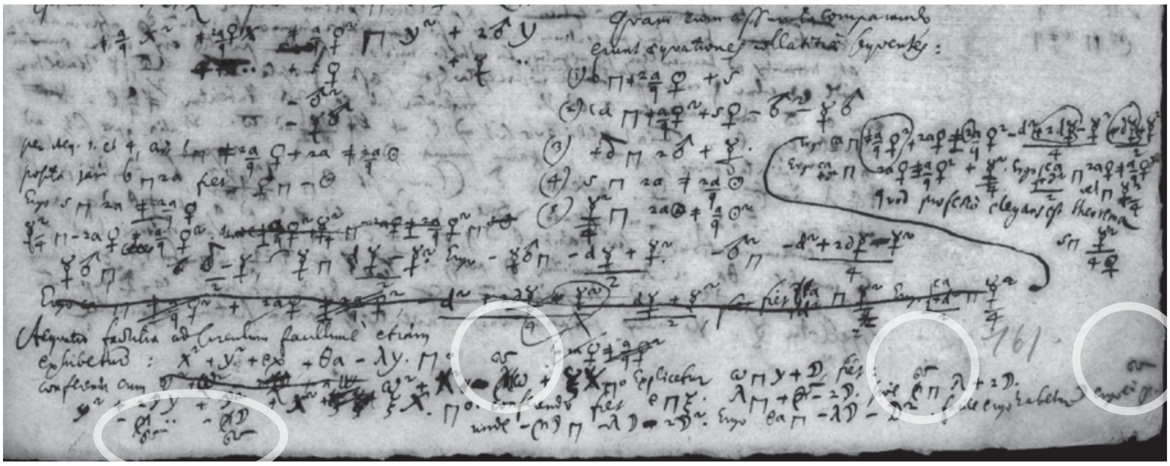
Aequatio factitia ad Circulum facillime etiam exhibetur: $x^2+y^2+ex+\theta a-\lambda y \sqcap 0$. conferenda cum $\omega^2+x^2-\sigma\sigma\omega+\xi x \sqcap 0$. Explicetur $\omega \sqcap y+☽$, fiet:

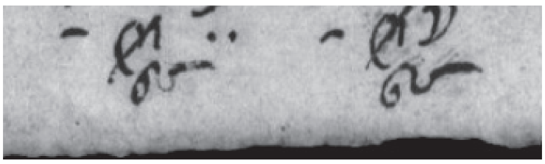
$$\begin{matrix} y^2+2☽y+ & ☽^2+x^2+\xi x \sqcap 0. \\ -\sigma\sigma\,.. & -\sigma\sigma☽ \end{matrix}$$

Conferendo fiet $e \sqcap \xi$. $\lambda \sqcap \sigma\sigma - 2☽$. sive $\sigma\sigma \sqcap \lambda + 2☽$. Unde $-\sigma\sigma☽ \sqcap -\lambda☽ - 2☽^2$. Ergo $\theta a \sqcap -\lambda☽ - ☽^2$. Facile ergo habetur ☽ ergo et $\sigma\sigma$.

σσ DOUBLE SMALL SIGMA SYMBOL – LAA VII-7 p. 414

The following figure shows the manuscript source of that text (LH 35 XIII 3, fol. 161r):





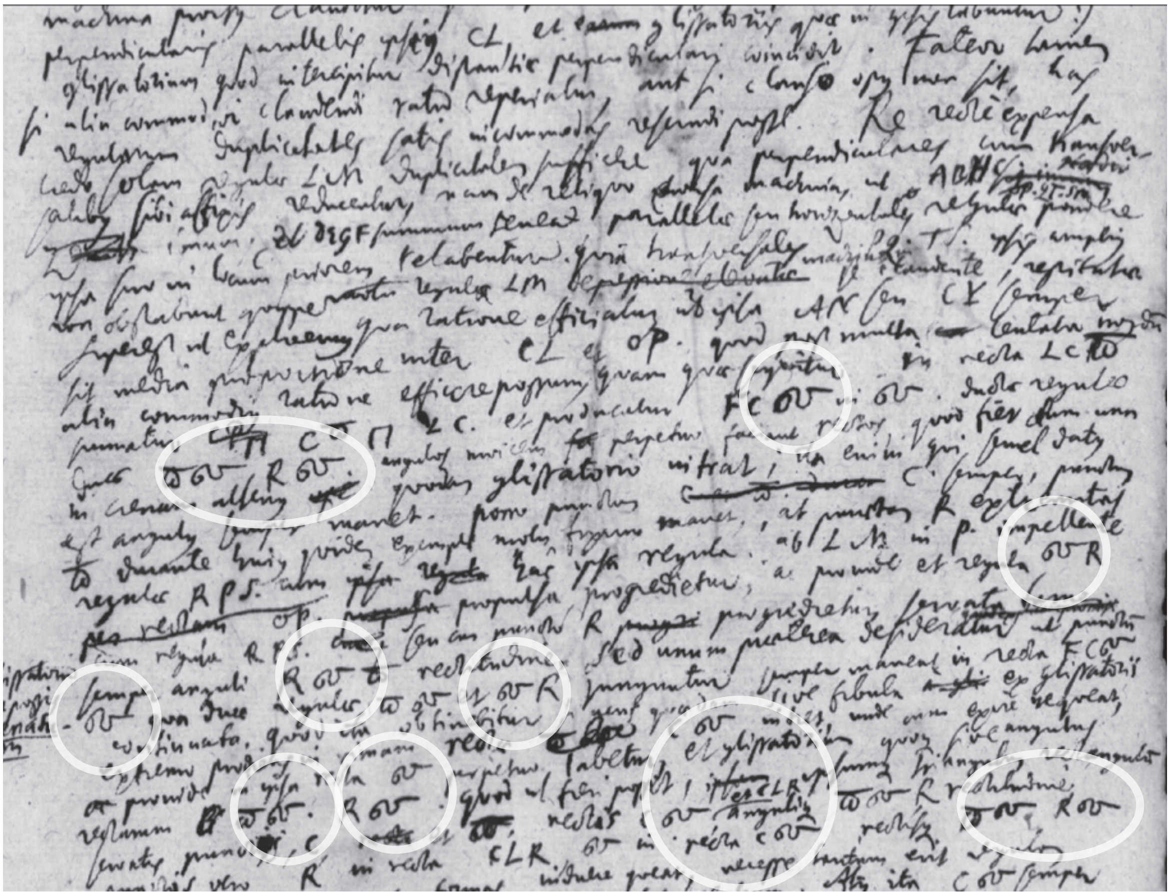
$$\frac{a}{1} - \frac{a^3}{1,2,3} + \frac{a^5}{1,2,3,4,5} - \frac{a^7}{1,2,3,4,5,6,7}$$

$$\frac{a^2}{1,2} - \frac{a^4}{1,2,3,4} + \frac{a^6}{1,2,3,4,5,6} - \frac{a^8}{1,2,3,4,5,6,7,8}$$

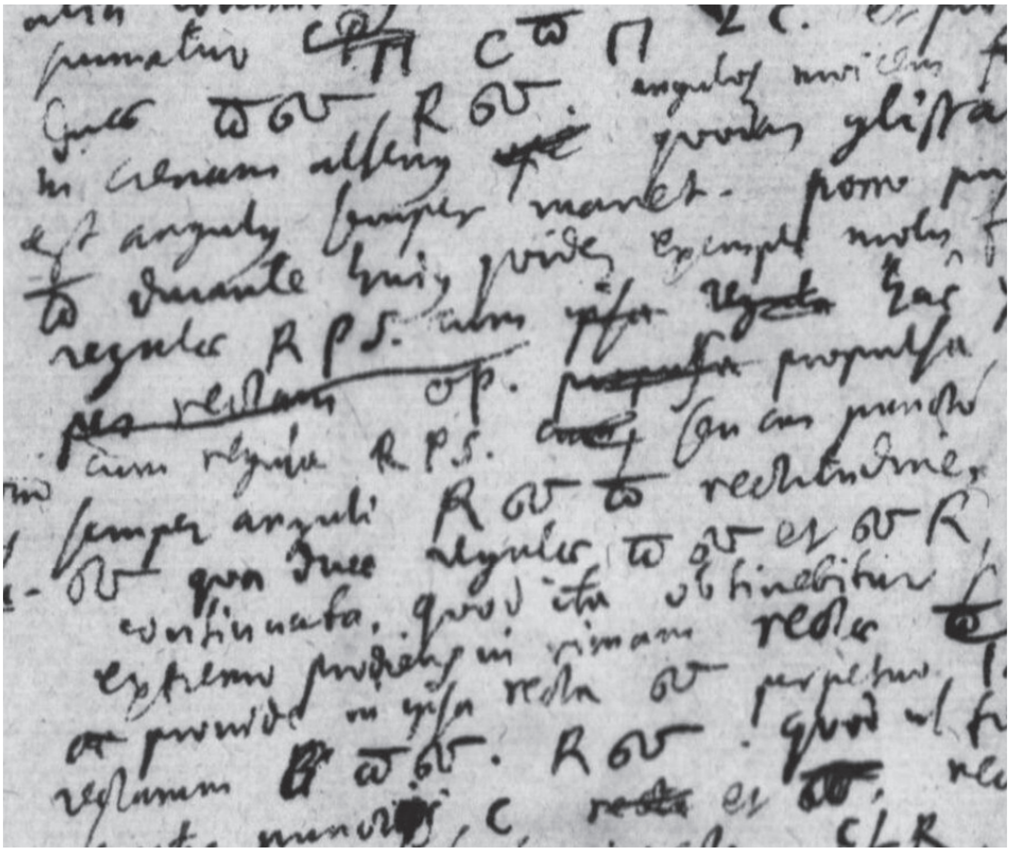
14 *Darunter:* $\int \overline{d\bar{a}v} \sqcap$ segm. $\sqcap \sigma\sigma$. $\int \overline{ad\sigma\sigma} \sqcap \int \overline{ad\bar{a}v}$. $d\bar{a}v \sqcap d\sigma\sigma$. Ergo vel $v \sqcap \frac{d\sigma\sigma}{d\bar{a}}$ vel $a \sqcap \int \frac{\overline{d\sigma\sigma}}{v}$. $\int \overline{d\bar{a}v} \sqcap \sigma\sigma$.

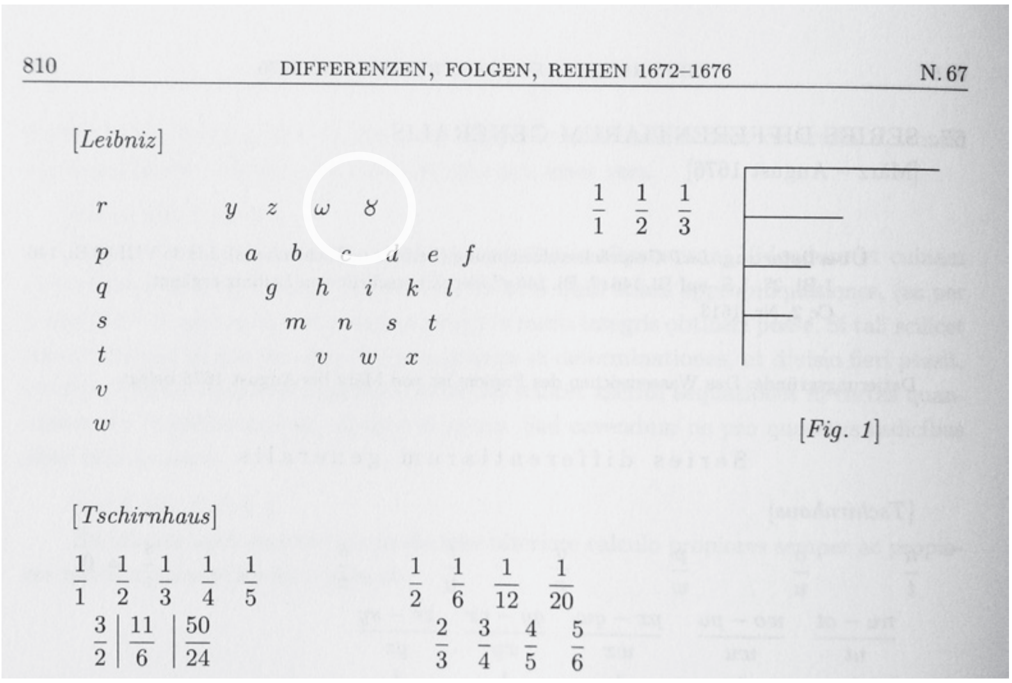
σσ DOUBLE SMALL SIGMA SYMBOL

LAA VII-6 p. 401



DOUBLE SMALL SIGMA SYMBOL
LH 35 I 17, fol. 14r





810 DIFFERENZEN, FOLGEN, REIHEN 1672–1676 N. 67

[*Leibniz*]

r	y	z	ω	ȣ			
p		a	b	c	d	e	f
q		g	h	i	k	l	
s		m	n	s	t		
t		v	w	x			
v							
w							

$\frac{1}{1}\ \ \frac{1}{2}\ \ \frac{1}{3}$

[*Fig. 1*]

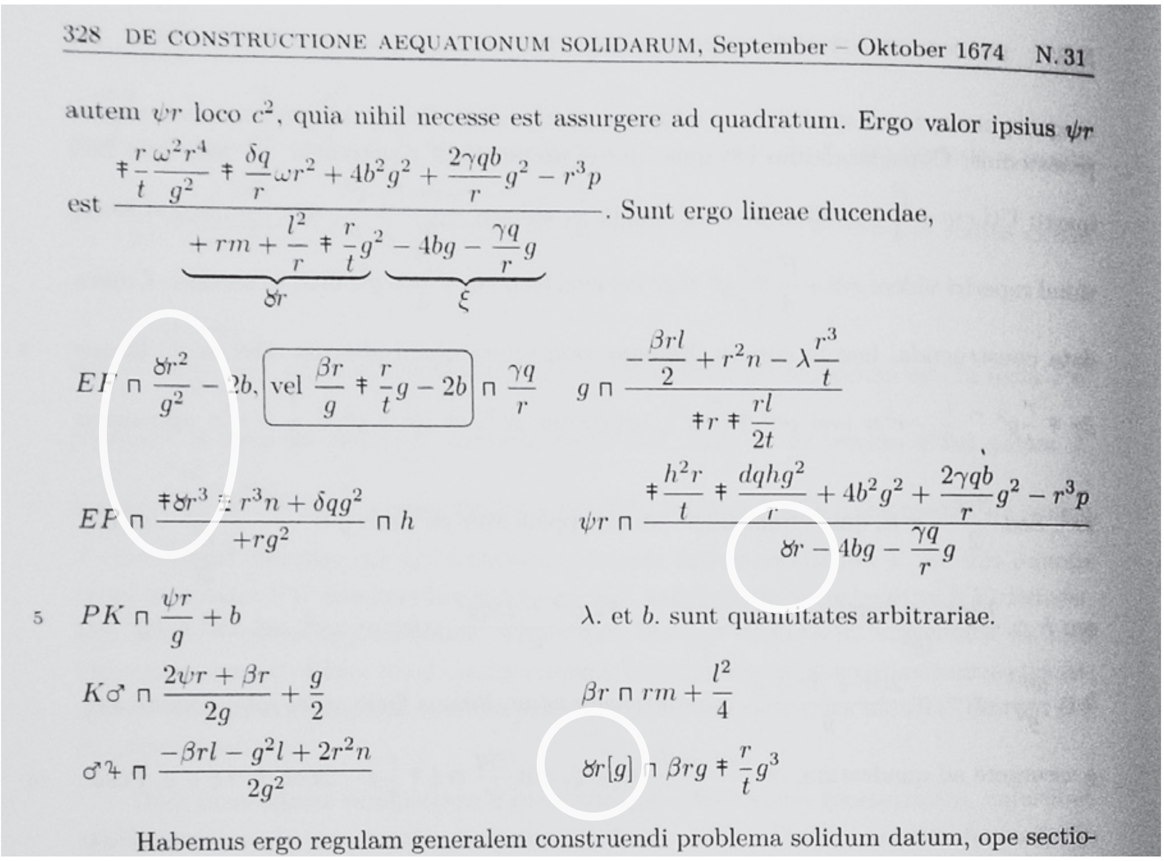
[*Tschirnhaus*]

$\frac{1}{1}\ \ \frac{1}{2}\ \ \frac{1}{3}\ \ \frac{1}{4}\ \ \frac{1}{5}$ $\qquad$ $\frac{1}{2}\ \ \frac{1}{6}\ \ \frac{1}{12}\ \ \frac{1}{20}$

$\frac{3}{2}\ \Big|\ \frac{11}{6}\ \Big|\ \frac{50}{24}$ $\qquad$ $\frac{2}{3}\ \ \frac{3}{4}\ \ \frac{4}{5}\ \ \frac{5}{6}$

ȣ GREEK SMALL LETTER OMICRON UPSILON, LAA VII-3 p. 810

The context of the scheme beginning with y z ω ȣ (in the 1st line) shows evidence for this character being a Greek letter taken as a mathematical symbol, which must not get confused with other, similar looking characters.



328 DE CONSTRUCTIONE AEQUATIONUM SOLIDARUM, September – Oktober 1674 N. 31

autem ψr loco c^2, quia nihil necesse est assurgere ad quadratum. Ergo valor ipsius ψr est $\dfrac{\mp\frac{r}{t}\frac{\omega^2 r^4}{g^2} \mp \frac{\delta q}{r}\omega r^2 + 4b^2g^2 + \frac{2\gamma qb}{r}g^2 - r^3p}{\underbrace{+rm+\frac{l^2}{r}\mp\frac{r}{t}g^2}_{\text{ȣ}r}\ \underbrace{-4bg-\frac{\gamma q}{r}g}_{\xi}}$. Sunt ergo lineae ducendae,

$EF \sqcap \frac{\text{ȣ}r^2}{g^2} - 2b$, vel $\boxed{\frac{\beta r}{g} \mp \frac{r}{t}g - 2b} \sqcap \frac{\gamma q}{r}$ $\qquad$ $g \sqcap \dfrac{-\frac{\beta rl}{2} + r^2n - \lambda\frac{r^3}{t}}{\mp r \mp \frac{rl}{2t}}$

$EF \sqcap \dfrac{\mp\text{ȣ}r^3 \pm r^3n + \delta qg^2}{+rg^2} \sqcap h$ $\qquad$ $\psi r \sqcap \dfrac{\mp\frac{h^2r}{t} \mp \frac{dqhg^2}{r} + 4b^2g^2 + \frac{2\gamma qb}{r}g^2 - r^3p}{\text{ȣ}r - 4bg - \frac{\gamma q}{r}g}$

$PK \sqcap \frac{\psi r}{g} + b$ $\qquad$ λ. et b. sunt quantitates arbitrariae.

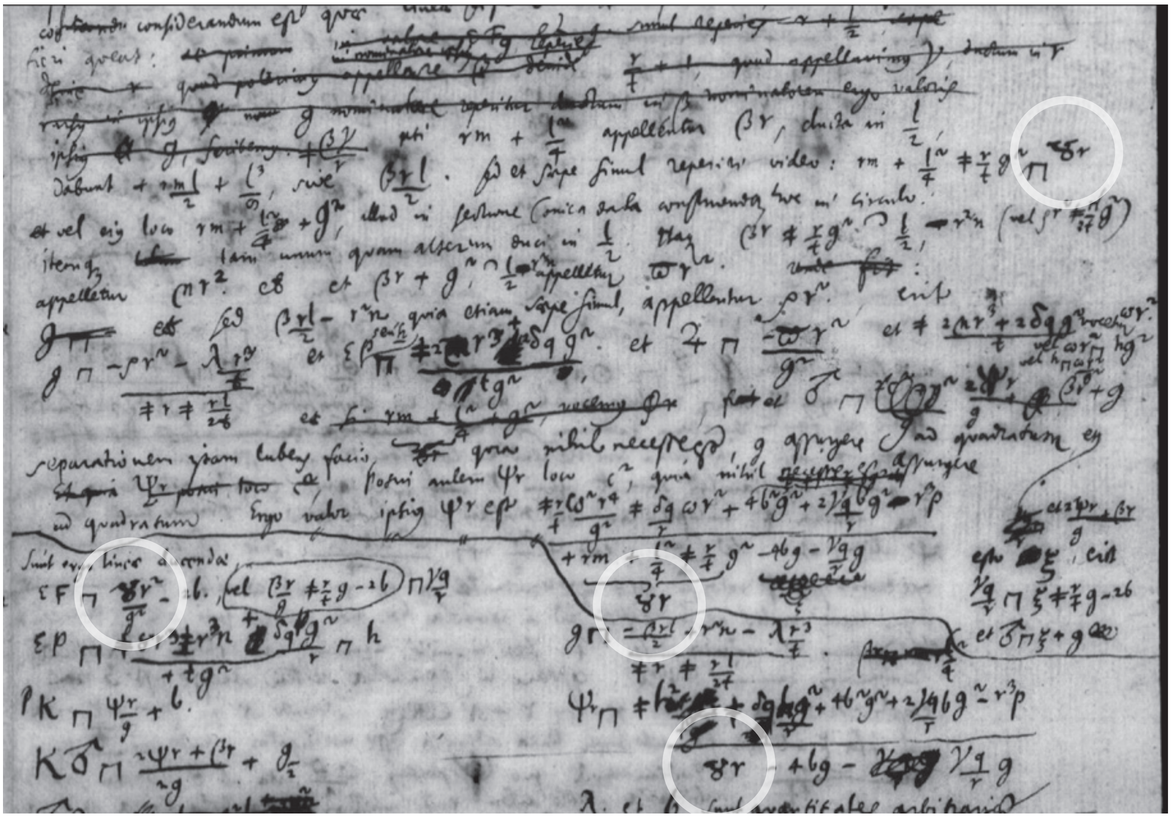
$K\text{♂} \sqcap \frac{2\psi r + \beta r}{2g} + \frac{g}{2}$ $\qquad$ $\beta r \sqcap rm + \frac{l^2}{4}$

$\text{♂♃} \sqcap \frac{-\beta rl - g^2l + 2r^2n}{2g^2}$ $\qquad$ $\text{ȣ}r[g] \sqcap \beta rg \mp \frac{r}{t}g^3$

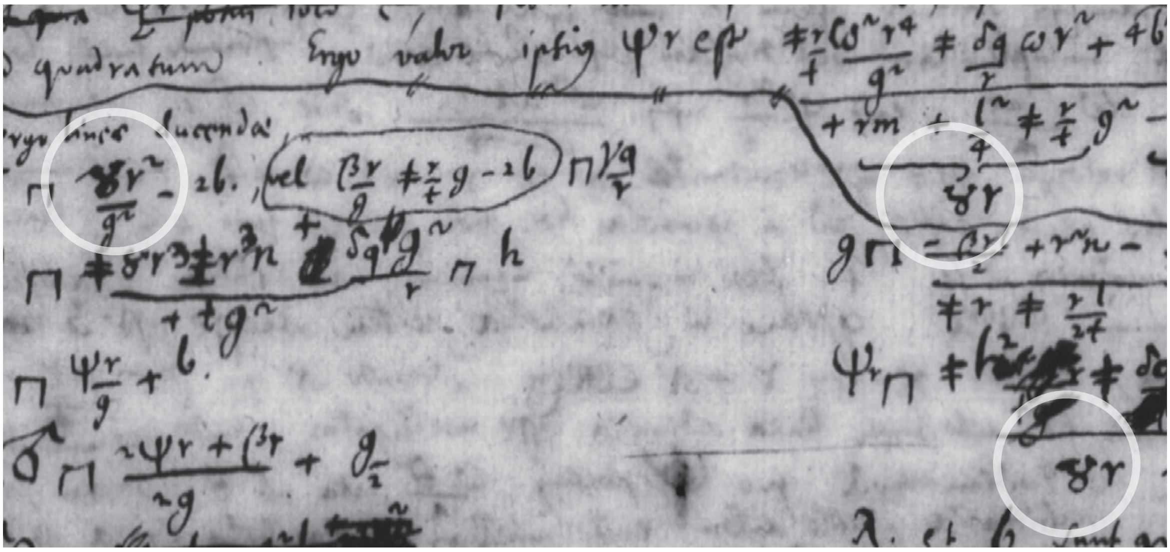
Habemus ergo regulam generalem construendi problema solidum datum, ope sectio-

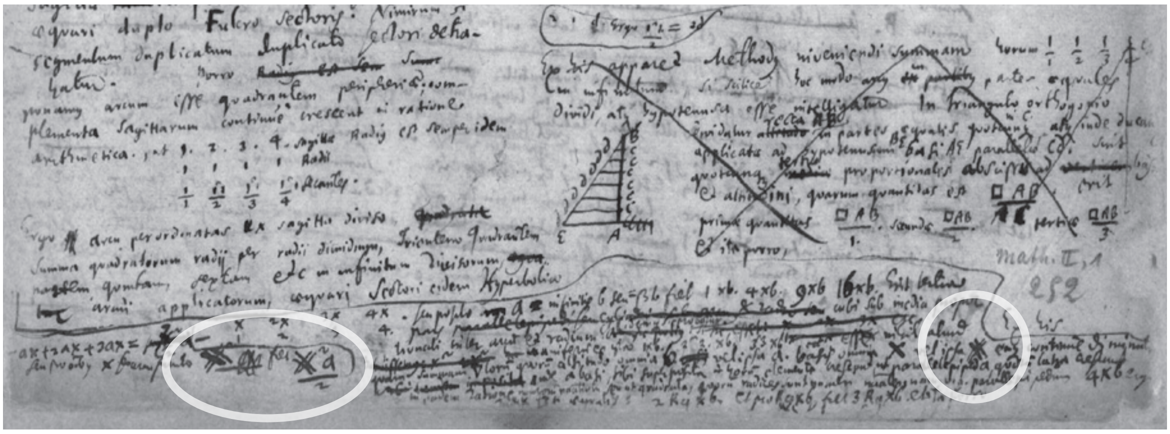
ȣ GREEK SMALL LETTER OMICRON UPSILON – LAA VII-7 p. 328

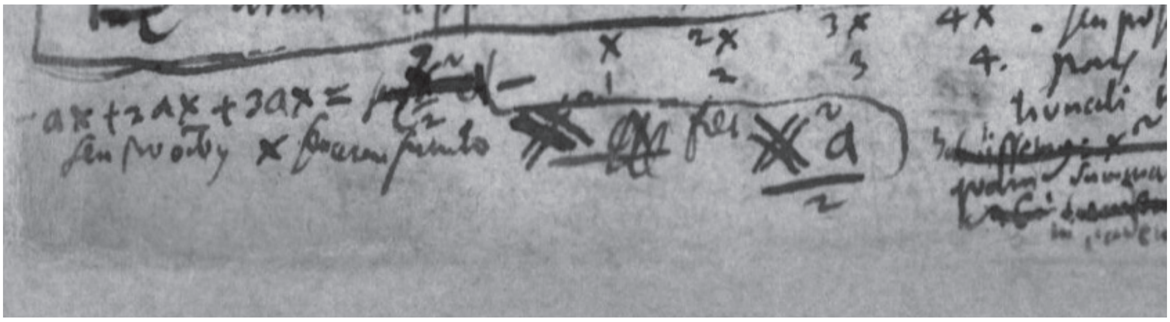
Leibniz used that symbol, which is derived from a Greek minuscule ligature ου, for denoting a variable, alongside with e.g. β or ω and latin lowercase letters.



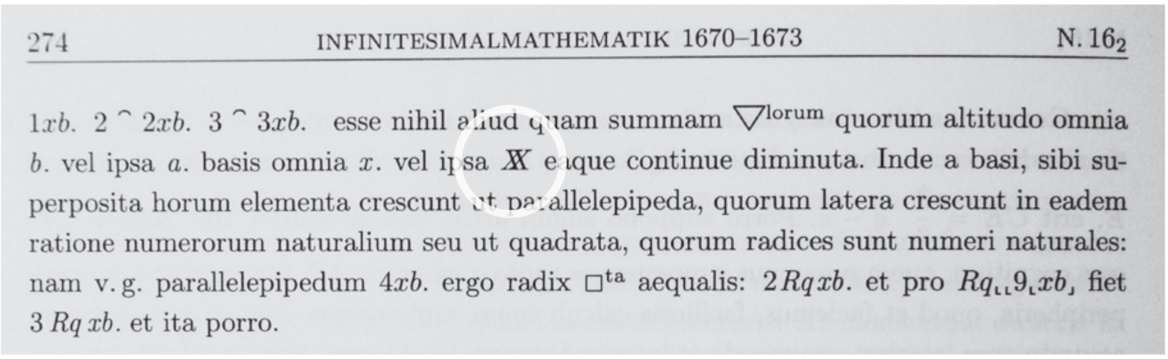
ȣ GREEK SMALL LETTER OMICRON UPSILON,
Leibniz’s handwriting, LH 35 I 17, fol. 5r







𝕏 DOUBLE X SYMBOL – LH 35 II 1, fol. 252r
In contrast to the simple symbol *x* Leibniz needed another symbol to denote "pro omnibus x" ("for all *x*"), meaning "the sum of x's".
In our first proposal (L-2402n) we presented the glyph XX for it, but we have reviewed this character in the manuscript source and decided to revise the glyph so that it better represents the original. In that earlier stage the shape XX, which looks like a letter ligature, led to the idea wether a case pairing lowercase/capital would make sense here. After thorough consideration we came to the conclusion that 𝕏 is the much preferred reference glyph. It is *not* a ligature in the usual typographic sense but a more complex composition built of two X's. Therefore case pairing would not make any sense at all. 𝕏 does never occur with any phonetic value, it exists only in a math context and has no reference to casing behaviour. (If someone would come up one day with a proposal for a language-related xx/XX ligature, that would be another matter.)



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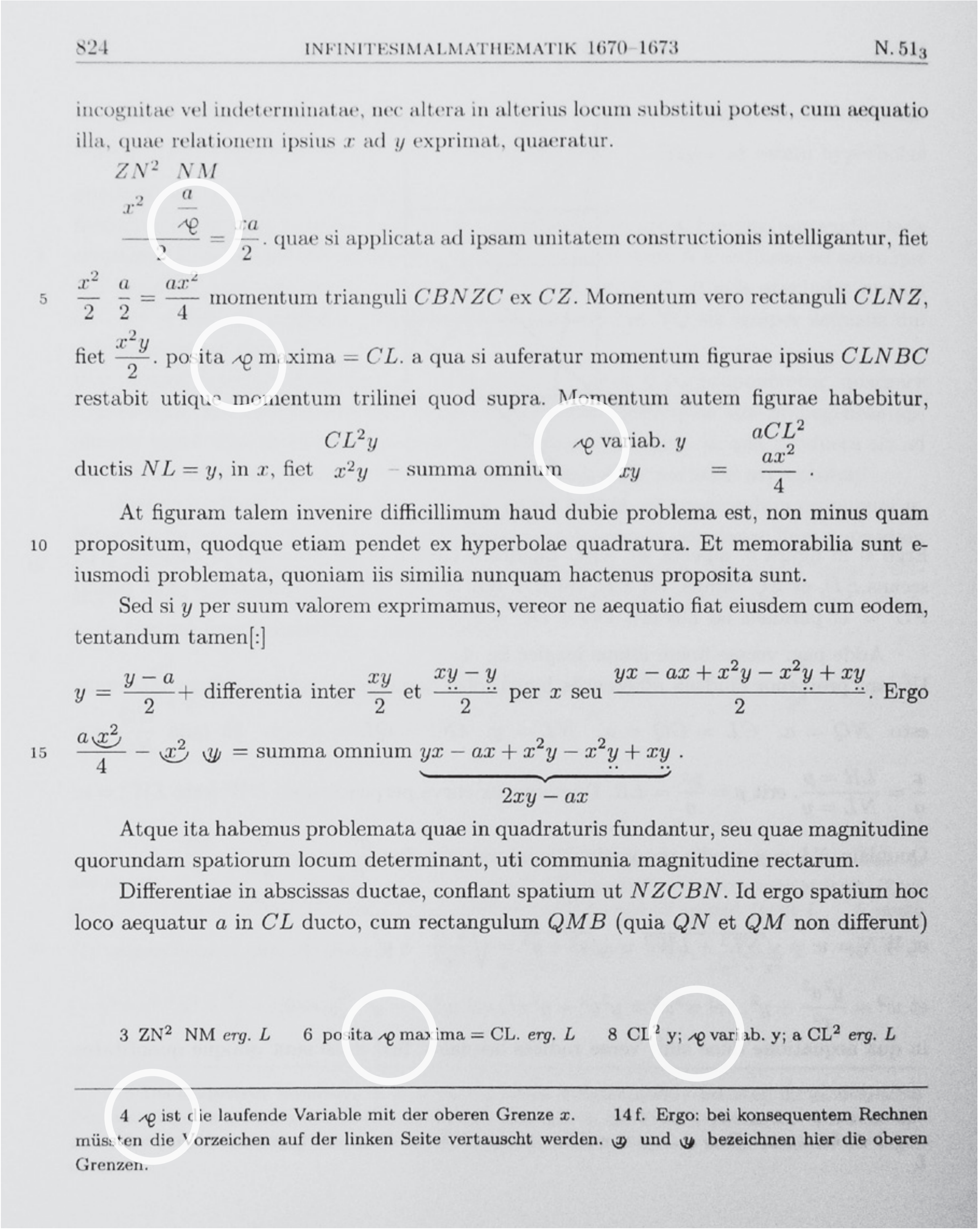
$1xb.$ $2 \frown 2xb.$ $3 \frown 3xb.$ esse nihil aliud quam summam ▽lorum quorum altitudo omnia b. vel ipsa a. basis omnia x. vel ipsa XX eaque continue diminuta. Inde a basi, sibi superposita horum elementa crescunt ut parallelepipeda, quorum latera crescunt in eadem ratione numerorum naturalium seu ut quadrata, quorum radices sunt numeri naturales: nam v. g. parallelepipedum $4xb$. ergo radix □ta aequalis: $2\,Rq\,xb$. et pro $Rq_{\llcorner\llcorner}9_{\llcorner}xb_{\lrcorner}$ fiet $3\,Rq\,xb$. et ita porro.

This unsuitable typographic solution in the LAA edition has been disregarded.
LAA VII-4 p. 274


824 INFINITESIMALMATHEMATIK 1670–1673 N. 51_3

incognitae vel indeterminatae, nec altera in alterius locum substitui potest, cum aequatio illa, quae relationem ipsius x ad y exprimat, quaeratur.

ZN^2 NM

$\frac{x^2 \frac{a}{\mathscr{x}}}{2} = \frac{\mathscr{x}a}{2}$. quae si applicata ad ipsam unitatem constructionis intelligantur, fiet $\frac{x^2}{2}\,\frac{a}{2} = \frac{ax^2}{4}$ momentum trianguli $CBNZC$ ex CZ. Momentum vero rectanguli $CLNZ$, fiet $\frac{x^2y}{2}$. posita 𝓍 maxima $= CL$. a qua si auferatur momentum figurae ipsius $CLNBC$ restabit utique momentum trilinei quod supra. Momentum autem figurae habebitur, ductis $NL = y$, in x, fiet $\begin{array}{c} CL^2y \\ x^2y \end{array}$ − summa omnium $\begin{array}{c} \mathscr{x}\ \text{variab.}\ y \\ \mathscr{x}y \end{array} = \begin{array}{c} aCL^2 \\ \frac{ax^2}{4} \end{array}$.

At figuram talem invenire difficillimum haud dubie problema est, non minus quam propositum, quodque etiam pendet ex hyperbolae quadratura. Et memorabilia sunt eiusmodi problemata, quoniam iis similia nunquam hactenus proposita sunt.

Sed si y per suum valorem exprimamus, vereor ne aequatio fiat eiusdem cum eodem, tentandum tamen[:]

$y = \frac{y-a}{2} +$ differentia inter $\frac{xy}{2}$ et $\frac{xy-y}{2}$ per x seu $\frac{yx - ax + x^2y - x^2y + xy}{2}$. Ergo $\frac{a\,x^2}{4} - x^2\ \mathscr{y} =$ summa omnium $\underbrace{yx - ax + x^2y - x^2y + xy}_{2xy - ax}$.

Atque ita habemus problemata quae in quadraturis fundantur, seu quae magnitudine quorundam spatiorum locum determinant, uti communia magnitudine rectarum.

Differentiae in abscissas ductae, conflant spatium ut $NZCBN$. Id ergo spatium hoc loco aequatur a in CL ducto, cum rectangulum QMB (quia QN et QM non differunt)

3 ZN^2 NM *erg.* L 6 posita 𝓍 maxima = CL. *erg.* L 8 CL^2 y; 𝓍 variab. y; a CL^2 *erg.* L

4 𝓍 ist die laufende Variable mit der oberen Grenze x. 14 f. Ergo: bei konsequentem Rechnen müssten die Vorzeichen auf der linken Seite vertauscht werden. 𝓍 und 𝓎 bezeichnen hier die oberen Grenzen.

𝓍 (LOWERCASE KURRENT X)

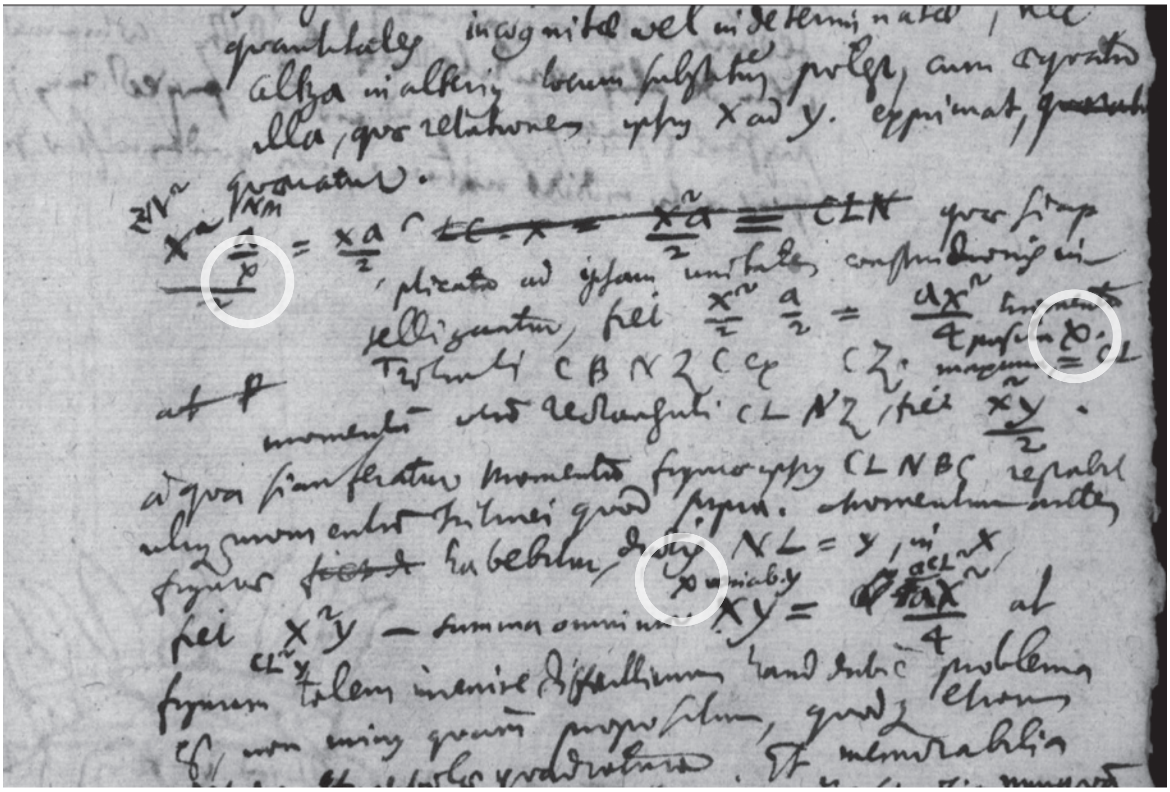
This page shows a deliberate distinction between the normal Latin *x* and a German kurrent-style 𝓍. In this case, the kurrent 𝓍 is used in the context of analyzing properties of curves. In a modern correspondence, it could be described as a variable on which the curve depends and which is limited by a given *x*. – LAA VII-4 p. 824

We propose to encode this character as:

1D4CD FE00; kurrent style; # MATHEMATICAL SCRIPT SMALL X

– analogous to the character we proposed in the Cossic proposal (L-2518):

```
1D4CF FE00; kurrent style; # MATHEMATICAL SCRIPT SMALL Z
```



𝓍 (LOWERCASE KURRENT X)
The corresponding text part, which shows a clear distincion between x and 𝓍.
Ms. LH 35 XIII 3, fol. 251r.

5. Unicode Character Properties

```
xh01;ALPHA X SYMBOL;Sm;0;ON;;;;;N;;;;;
xh02;FUNCTIO DIFFERENTIATA SYMBOL;Sm;0;ON;;;;;N;;;;;
xh03;DOUBLE X SYMBOL;Sm;0;ON;;;;;N;;;;;
xh04;DOUBLE SMALL SIGMA SYMBOL;Sm;0;ON;;;;;N;;;;;
xh05;GREEK SMALL LETTER OMICRON UPSILON;Ll;0;L;;;;;N;;;0378;;0378

1D4CD FE00; kurrent style; # MATHEMATICAL SCRIPT SMALL X
```

6. Bibliography

LAA – refers to: Leibniz, Gottfried Wilhelm: Sämtliche Schriften und Briefe. (‘Leibniz-Akademie-Ausgabe’, many volumes)
LH – refers to: Leibniz’s original manuscripts, GWLB Hanover

Cajori, Florian: A history of mathematical notations. Chicago 1928
Probst, Siegmund: Édition des symboles de Leibniz. PDF. Hanover 2023 (presentation Paris 2023)
Rinner, Elisabeth: List of glyphs in Leib.mf. PDF. Hanover 2022

ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[1]
Please fill all the sections A, B and C below.
Please read Principles and Procedures Document (P & P) from http://std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html **for guidelines and details before filling this form.**
Please ensure you are using the latest Form from http://std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html**.**
See also http://std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html **for latest *Roadmaps*.**

A. Administrative

1. **Title:** **Proposal to encode 7 letterlike symbols**
2. Requester's name: Uwe Mayer, Siegmund Probst, David Rabouin, Elisabeth Rinner, Andreas Stötzner, Achim Trunk, Charlotte Wahl
3. Requester type (Member body/Liaison/Individual contribution): Individual (work group)
4. Submission date: 2025-11.25.
5. Requester's reference (if applicable): LUCP L-2535
6. Choose one of the following:
   This is a complete proposal: Yes
   (or) More information will be provided later:

B. Technical – General

1. Choose one of the following:
   a. This proposal is for a new script (set of characters): No
      Proposed name of script:
   b. The proposal is for addition of character(s) to an existing block: Yes
      Name of the existing block: *not yet specified*
2. Number of characters in proposal: 6
3. Proposed category (select one from below - see section 2.2 of P&P document):

A-Contemporary		B.1-Specialized (small collection)	Yes	B.2-Specialized (large collection)	
C-Major extinct		D-Attested extinct		E-Minor extinct	
F-Archaic Hieroglyphic or Ideographic		G-Obscure or questionable usage symbols			

4. Is a repertoire including character names provided? Yes
   a. If YES, are the names in accordance with the “character naming guidelines” in Annex L of P&P document? Yes
   b. Are the character shapes attached in a legible form suitable for review? Yes
5. Fonts related:
   a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?
      Andreas Stötzner
   b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):
      Andreas Stötzner Gestaltung, Klauflügelweg 21, 88400 Biberach/R., Germany, as@signographie.de
6. References:
   a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? Yes
   b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached? Yes
7. Special encoding issues:
   Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? No

8. Additional Information:
Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at http://www.unicode.org for such information on other scripts. Also see Unicode Character Database (http://www.unicode.org/reports/tr44/) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

[1] Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? Yes
   If YES explain *see N5335 (L-2520); N5277 (L-2402n)*
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)? Yes
   If YES, with whom? Leibniz-Archiv, Forschungsstelle der Leibniz-Edition, Niedersächsische Landesbibliothek (GWLB), Hanover, Göttingen Academy of Science and Humanities in Lower Saxony (DE), Philiumm research group of CNRS (UMR 7219, laboratoire SPHERE) / Université de Paris VII; general: scholars, researchers, authors and editors working in the field of science history and upon editions of historic text corpora (e.g. of G. W. Leibniz, but also many others)
   If YES, available relevant documents: L-2409, L-2410
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? Yes
   Reference:
4. The context of use for the proposed characters (type of use; common or rare) Common
   Reference: mainly specialist usage, scholarly, worldwide
5. Are the proposed characters in current use by the user community? Yes
   If YES, where? Reference: mainly Europe, Americas; other countries
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? No
   If YES, is a rationale provided?
   If YES, reference:
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? No
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? No
   If YES, is a rationale for its inclusion provided?
   If YES, reference:
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? No
   If YES, is a rationale for its inclusion provided?
   If YES, reference:
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character? No
    If YES, is a rationale for its inclusion provided?
    If YES, reference:
11. Does the proposal include use of combining characters and/or use of composite sequences? No
    If YES, is a rationale for such use provided?
    If YES, reference:
    Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? No
    If YES, reference:
12. Does the proposal contain characters with any special properties such as control function or similar semantics? No
    If YES, describe in detail (include attachment if necessary)
13. Does the proposal contain any Ideographic compatibility characters? No
    If YES, are the equivalent corresponding unified ideographic characters identified?
    If YES, reference: