

The Table of Contents is wrong and must be replaced by the following one. Please excuse me.

Table of contents

preface.....	7
forward.....	8
introduction.....	9
computer implementation.....	11
geometry reminder.....	13
01 elementary geometry and primitive forms	13
02 cartesian geometry and equations.....	14
021 implicit equations.....	15
022 parametric equations.....	16
023 differential equations.....	17
0231 : the falling apple	17
0232 : the rolling marble.....	17
0233 the sliver of soap.....	19
03 first attempt at classification.....	20
031 solid forms.....	20
032 flexible forms	20
033 elastic forms.....	20
1 construction, definition.....	22
11 recursive multilinear forms.....	24
111 a point in R4.....	24
112 a straight segment.....	26
113 a curved facet.....	29
114 a curved cube.....	31
115 a curved hypercube.....	33
116 first generalisation.....	34
12 diagonalisation.....	35
121 the curved facet and its parabola.....	35
122 the ruled paraboloid and its cubic.....	38
123 the curved cube and its diagonals.....	42
124 the biquadratic and its diagonal.....	44
13 generalisation : pFormes.....	47
2 operations, properties.....	51
21 fundamental operations.....	52
211 subdivision.....	53
212 degree elevation.....	54
213 reparameterization.....	55
214 extractions, tangent axes.....	56
2141 pFGetSubForm().....	56
2142 pFGetPoint().....	57
2143 pFGetPijk().....	57
21431 the case of a curve.....	57
21432 the case of a surface.....	58
21433 the case of a volume.....	58
22 immersions.....	60

221 interpolation.....	60
222 diagonalisation.....	62
223 immersed pForm.....	62
2231 a point in a pSurface.....	62
2232 two points in a pS22.....	63
2233 two points in a pS32.....	64
2234 two points in a pSurface.....	65
2235 three points in a pSurface.....	66
2236 generalisation: immersed pForms.....	68
23 interface.....	70
231 transformations.....	71
232 representation.....	72
2321 basic form.....	72
2322 specific form.....	73
3 compositions, applications.....	75
31 rational forms.....	76
311 conics.....	77
312 cones, cylinders, toruses and spheres.....	80
313 applications.....	83
3131 Viviani's window.....	83
3132 immersed circles.....	85
3133 straight lines that get into knots.....	88
32 composed forms.....	90
321 meshes.....	90
322 cross surfaces, surfaces of revolution.....	91
323 pipe surfaces.....	93
324 affine surfaces.....	96
325 parallel forms.....	99
326 developed surfaces.....	101
33 special linear combinations.....	102
331 symmetrical forms.....	102
332 coons surfaces.....	103
34 concatenations, splines.....	107
341 non interpolating splines.....	107
342 interpolating splines.....	109
343 NURBS.....	111
35 deformation operators.....	112
36 geometry in pForms.....	115
37 other operations on pForms.....	117
conclusion.....	119
references.....	122
implementation.....	124
typical example	124
pFlibs.inc file.....	126
pbook.inc file.....	167