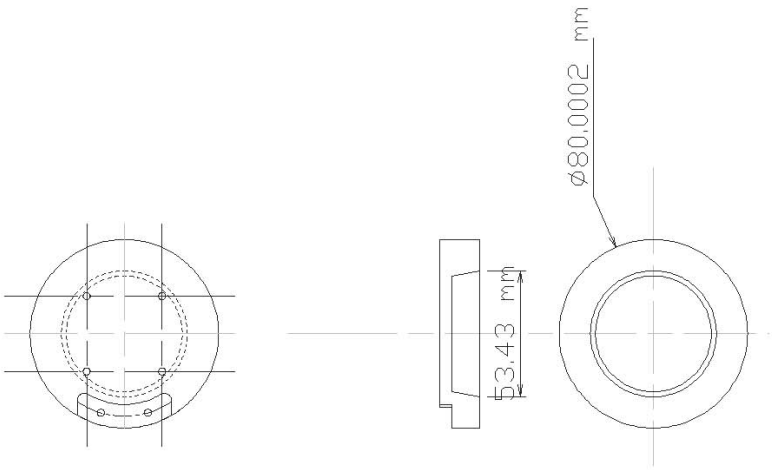
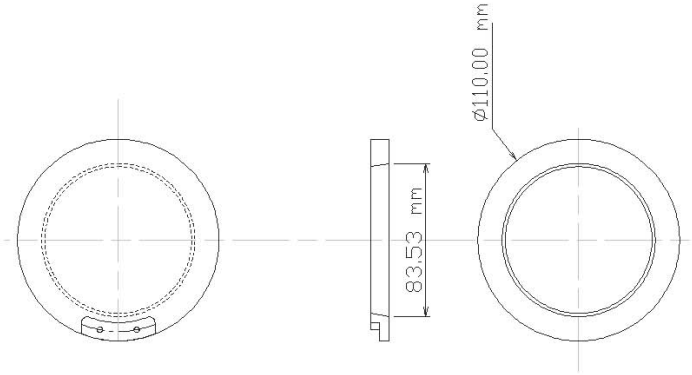
Appendix D

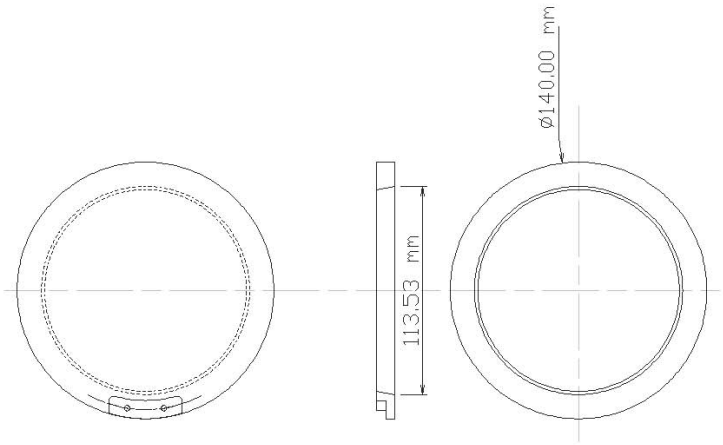
Design of goniometer for spectroscopic applications

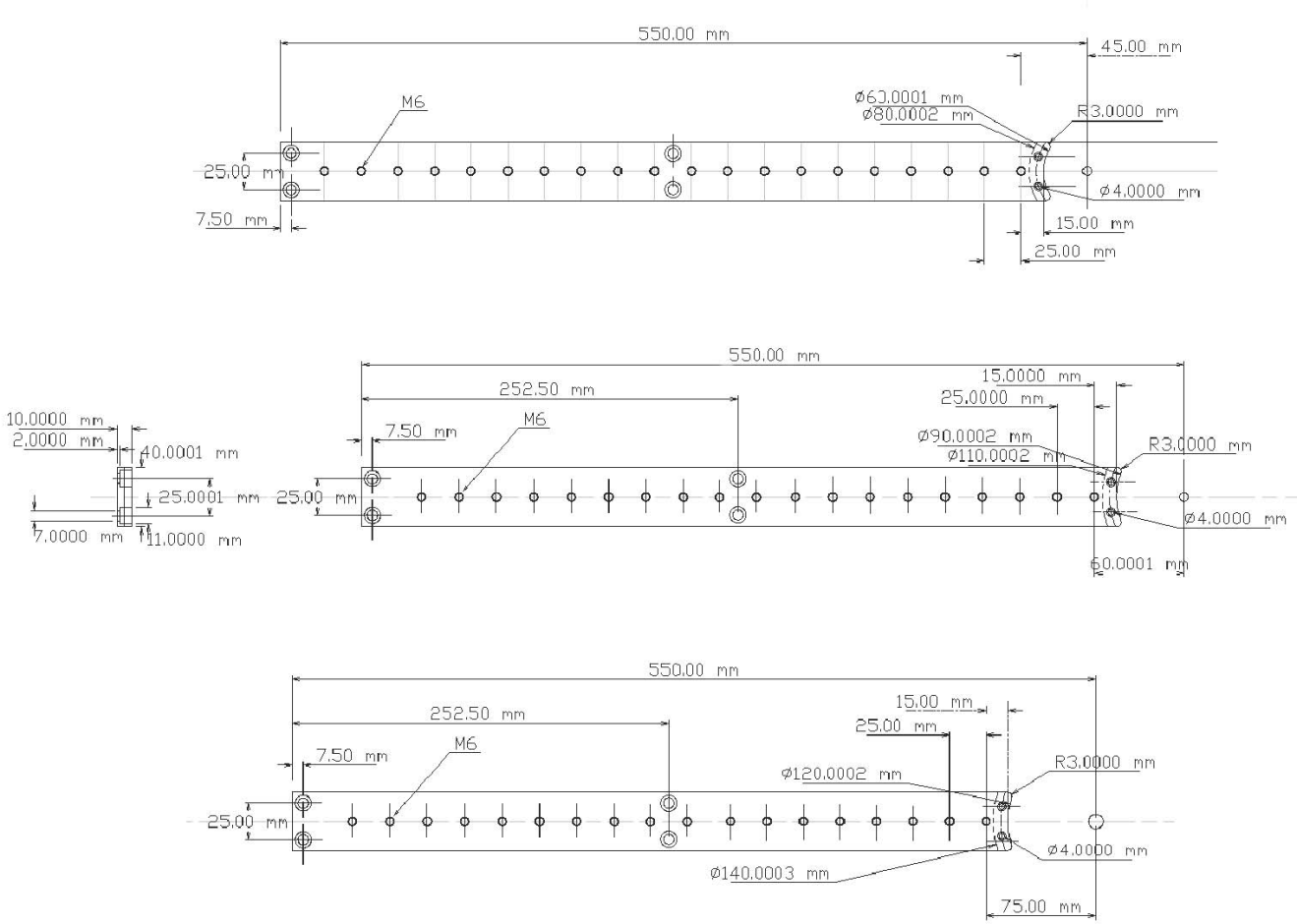
This appendix contains the drawings of the goniometer integrated in the experimental setup for the investigation of scattering from the surface of nanostructured samples presented in chapter 4.

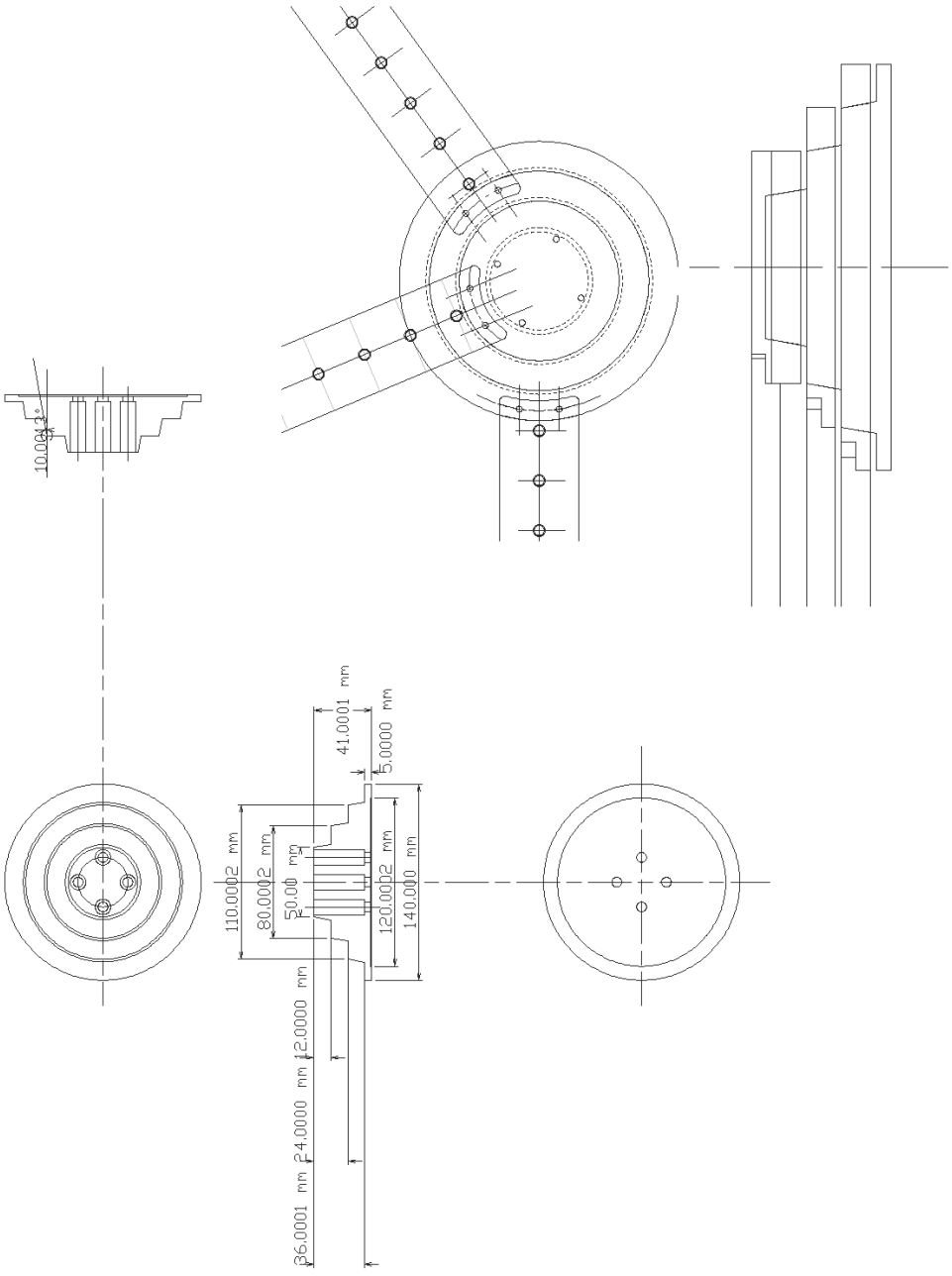
On page 186 the drawings of three concentric rings are shown. An arm was attached to each ring and their drawings are shown on page 187. The rings fitted a stepped shaft, which is shown on page 188 together with view of the centre of the assembly. The design notes are shown on page 189. All parts were machined out of hard aluminium and then hard-anodised, but for the shaft, which was made of steel.


ø80.0002 mm
53.43 mm


ø110.00 mm
83.53 mm


ø140.00 mm
113.53 mm


550.00 mm
45.00 mm
M6
Ø60.0001 mm
Ø80.0002 mm
R3.0000 mm
25.00 mm
Ø4.0000 mm
7.50 mm
15.00 mm
25.00 mm
550.00 mm
10.0000 mm
2.0000 mm
40.0001 mm
252.50 mm
15.0000 mm
25.0000 mm
7.50 mm
M6
Ø90.0002 mm
Ø110.0002 mm
R3.0000 mm
25.0001 mm
25.00 mm
Ø4.0000 mm
7.0000 mm
11.0000 mm
60.0001 mm
550.00 mm
252.50 mm
15.00 mm
25.00 mm
7.50 mm
M6
Ø120.0002 mm
R3.0000 mm
25.00 mm
Ø4.0000 mm
Ø140.0003 mm
75.00 mm


10.004 3°
41.0001 mm
5.0000 mm
110.0002 mm
80.0002 mm
50.00 mm
120.0002 mm
140.000 mm
12.0000 mm
24.0000 mm
36.0001 mm

NOTE

TYPE	No	DESCRIPTION

MATL STAINLESS STEEL / ALUMINIUM

TOLERANCES UNLESS OTHERWISE STATED ±0.20

ALL DIMS IN MILLIMETERS | FINISH 1.6 Ám / CLEAN / ANODISED

SURFACE TEXTURE VALUES IN Ám | REMOVE SHARP EDGES

MACHINE WHERE MARKED ▽ | SCALE HALF FULL SIZE

THIRD ANGLE

REV	DATE	CHANGES

DEPARTMENT OF ELECTRONICS & COMPUTER SCIENCE

TITLE 3 cone taper and taper rings

DATE | REV | SHEET 1 OF 1 | DRG No

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