

# Technical Evaluation Report “HST/COS FUV Optical Design Parameters”

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**1. FUV OPTICAL DESIGN PARAMETERS**

Table 1 presents the optical design parameters for the COS FUV optical path. The last change to these values prior to release occurred on July 8, 1998.

<b>Channel Name</b>	<b>G130M</b>	<b>G160M</b>	<b>G140L</b>
Vertex/Slit (z)	6414.4mm	6414.4mm	6414.4mm
Slit Off Axis	90.49mm	90.49mm	90.49mm
Slit/Grating	1626.57mm	1626.57mm	1626.57mm
$\alpha$	20.1°	20.1°	7.40745°
$\beta$	8.6466°	8.6466°	-4.04595°
$\alpha$ - $\beta$	11.4534°	11.4534°	11.4534°
Grating/Detector	1541.25mm	1541.25mm	1541.25mm
Det Norm/Cntral Ray	9.04664°	9.04664°	9.04664°
Groove density (l/mm)	3800.	3093.3	480.
radius	1652.mm	1652.mm	1613.87mm
a4	1.45789e-9	1.45789e-9	1.33939e-9
a6	-4.85338e-15	-4.85338e-15	1.48854e-13
$\gamma$	-71.0°	-62.5°	10.0°
$\delta$	65.3512°	38.5004°	24.0722°
rc	-4813.92mm	-4363.6mm	3674.09mm
rd	5238.29mm	4180.27mm	3305.19mm
recording $\lambda$	4880 Å	4880 Å	4880 Å