

# UV Stellar Distribution Model for Payload Design Constraints

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We present a model calculation of the stellar distribution in UV band centered at 2175Å, well known bump in interstellar extinction curve. The stellar distribution model used in this study is based on the Bahcall-Soneira galaxy model (1980). The source code for model calculation was provided by Brosch (1991) and modified to investigate various designing factors for UV satellite payload. The model predicts UV stellar densities in different areas, and its results are compared to actual measurements for a number of sky regions. From this study, we can determine the field of view, size of optics, angular resolution, and number of stars in one orbit. They will provide basic components in designing a satellite payload for UV observations.