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Wide Field X-ray Telescope: Mission Overview

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(Submitted on 29 Oct 2010)

The Wide Field X-Ray Telescope (WFXT) is a medium-class mission designed to be 2-orders-of-magnitude more sensitive than any previous or planned X-ray mission for large area surveys and to match in sensitivity the next generation of wide-area optical, IR and radio surveys. Using an innovative wide-field X-ray optics design, WFXT provides a field of view of 1 square degree (10 times Chandra) with an angular resolution of 5" (Half Energy Width, HEW) nearly constant over the entire field of view, and a large collecting area (up to 1 m² at 1 keV, > 10x Chandra) over the 0.1-7 keV band. WFXT's low-Earth orbit also minimizes the particle background. In five years of operation, WFXT will carry out three extragalactic surveys at unprecedented depth and address outstanding questions in astrophysics, cosmology and fundamental physics. In this article, we illustrate the mission concept and the connection between science requirements and mission parameters.

Comments: Proceedings of "The Wide Field X-ray Telescope Workshop", held in Bologna, Italy, Nov. 25-26 2009. To appear in *Memorie della Societ`a Astronomica Italiana* 2010 (arXiv:1010.5889)

Subjects: **Cosmology and Extragalactic Astrophysics (astro-ph.CO)**; High Energy Astrophysical Phenomena (astro-ph.HE)

Report number: WFXTconf/2009/01

Cite as: [arXiv:1010.6252v1](https://arxiv.org/abs/1010.6252v1) [astro-ph.CO]

Submission history

From: Piero Rosati [[view email](#)]

[v1] Fri, 29 Oct 2010 15:38:39 GMT (2724kb)

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