

IAF SYMPOSIUM ON ONGOING AND NEAR FUTURE SPACE ASTRONOMY AND  
SOLAR-SYSTEM SCIENCE MISSIONS (A7)  
Space Agency Strategies and Plans (1)

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MISSION ENABLING MIRROR TECHNOLOGIES FOR ASTRONOMICAL SPACE TELESCOPES AT  
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**Abstract**

Increasing performance requirements for astronomical space observatories often exceed the capabilities of the technical state-of-the-art. The realization of such missions often depends on innovations in mirror technologies to significantly improve angular resolution, photon collecting area, light weighting or thermal characteristics. Examples from past ESA missions are the electro-formed x-ray mirrors of XMM Newton or the 3.5 m mirror of Herschel made up of 12 sintered silicon carbide segments. We present the current challenges and developments in mirror technologies for ESA's future astronomy missions.