High precision mirrors

Reference: TD-DE-1069

TECHNOLOGY DESCRIPTION

In addition to their outstanding optical quality, ultra-precision metal mirrors possess many other beneficial properties. Most notably, they feature high-precision positioning attributes that are well-aligned with the optical coordinate system and can be seamlessly integrated into the mirror's structure. Lightweight mirrors with on-axis or off-axis geometries and even freeform surfaces are produced efficiently.

One of the unique capabilities is the manufacturing of precision mirrors ranging from a few millimetres up to 1000 mm in diameter. Any size can be produced, from single pieces to large quantities. Additionally, prototype plastic lenses and infrared lenses are available from single pieces to large volumes.

INNOVATIVE ASPECTS

- Ultra precision machining up to 1 meter
- Aspheres, freeforms, off-axis surfaces
- Aluminium, stelle, invar, plastics, IR-crystals
- Form accuracy PV < 50 nm
- RMS wavefront error < 10 nm
- Surface Roughness Rq < 2 nm

TECHNOLOGY READINESS (in space application)

TRL 9 (2024)

COUNTRY OF ORIGIN

Germany

LATEST UPDATE

06/2024

TAGS #mirror #high precision #machining #light weight #large quantity #dif. geometries

APPLICATION AREAS

Aviation | Energy | Construction & Civil Engineering | Electrical & Electronic Engineering | Chemical Engineering & Biotechnology | Health | Safety and security

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