Lithuanian scientific research institute offers all-silica optical coatings for laser systems and optical components manufacturers

- Scheda
- Approfondimenti

Identificativo proposta:TOLT20191031001 **RICHIEDI MAGGIORI INFORMAZIONI**

Optical coatings laboratory at a scientific research institute in Lithuania is offering all-silica (or germanium) coatings for the operation in the spectral range from infrared to ultraviolet. A sputtering technology together with glancing angle deposition method is used to produce coatings with broad and novel properties. The institute is interested in technical cooperation agreement, as well as R&D cooperation or license agreements.

Lithuanian scientific research institute operates an Optical Coatings Laboratory, which conducts scientific and technological activities aimed at the formation of thin layers for optical and laser applications, the development of various optical elements and the optimization of their characteristics. The idea behind any optical coating is that a principal possibility to overcome fundamental limit of pure optical materials laser light resistance is achieved by designing artificial materials with desired optical properties. In particular, the Optical Coatings Laboratory developed a technology to form all-silica (or germanium) optical coatings aimed at applications to high-reflection mirrors and high-transmission optical filters. A sputtering technology together with glancing angle deposition method is used to produce coatings with broad and novel properties. Sputtering technology uses microscopic particles of a solid material that are ejected from its surface, after the material is itself bombarded by energetic particles of a plasma or gas. The ejected particles are then deposited on an optical substrate. Placing the substrate at oblique angle - a method called glancing angle deposition technique - induces a self-shadowing effect, which causes the growth of tilted columnar nano-structures with elliptical shape cross-sections. The technology allows to form a wide range of optical components, such as UV mirrors, anti-reflecting coatings, spectral filters at NIR spectral region, and waveplates. The technology is aimed at laser systems and optical components manufacturers to which a license, technical cooperation or research cooperation agreements are offered. The technical cooperation agreement is sought with partners for whom the optical coatings could be supplied since the laboratory has its own in-house manufacturing line. Alternatively, a license agreement can be signed with potential manufacturers to license the technology directly. Lastly, a contractual research can be performed in case specific values of parameters are needed for every specific application.

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