FILM-FORMING MATERIALS BASED ON GERMANIUM-METAL OXIDE (SULFIDE, SELENIDE) SYSTEMS

Specimens of coatings obtained from *Ge – ZnS* (brown color); *Ge – ZnO* (orange color); refined *ZnS/Cr* (green-blue color) on quartz substrates

Specification

The materials are composites made by sintering the powders of their components. They have evaporation temperature lower than that of initial components (germanium and metal oxide, sulfide or selenide). The materials form coatings with a high refractive index (3.0—3.8), are transparent in the IR range (0.7—20 μm), have high mechanical durability (group 0), climate resilience, and thermal resistance

Areas of Application

The materials are designed for applying thin-film coatings on germanium optical elements of devices operating in the IR range (imaging IR-equipment, night vision devices, etc.) by the thermal evaporation method in vacuum

Advantages

The film materials have no analogs all over the world, expand the range of materials with required refractive index and corresponding range of transparency. The coatings based on them surpass the conventional products with similar properties in mechanical durability and optical transparency

Stage of Development. Suggestions for Commercialization

IRL3, TRL2
Trial samples manufactured, upon request

IPR Protection

IPR3

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