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Status of R&D activity on IBS TiO₂:GeO₂ coatings (Invited)

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Brownian noise in the current second generator detectors is limited by the internal mechanical energy dissipation of the high index material composing the dielectric reflector stack. One promising alternative to the currently used titania-doped tantala is a mixture of titania and germania. We report here the status of the research on this new material, estimates of the achievable improvements of Brownian noise, and the future work.

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