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Metal Diffusion in Granular Bismuth Thin Films JOHN SADLEIR, NASA GSFC & UIUC Physics Dept — Bismuth's exotic electro-thermal properties makes it attractive for many device applications. Despite such incentives, fabrication of high quality bismuth films has proven difficult, and measured properties of such films are highly variable in the literature. Implementing a bismuth deposition process in device fabrication presents additional challengesparticularly at interfaces due to the inherent granularity and surface roughness of its films, its low melting point, and its tendency to diffuse and form undesired intermetallic phases. We report on the properties of the granular bismuth films grown at NASA Goddard and studies of solid state diffusion of Au and Cu in these films.

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