

Status of the Type B optics suspensions for the KAGRA gravitational wave detector

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KAGRA is a cryogenic interferometric gravitational wave detector with 3-km arms under construction at an underground site in the Kamioka Mine, Gifu Prefecture, Japan. Key optics are suspended as part of multistage pendulum vibration isolation systems to reduce seismic noise. The beamsplitter (BS) and three signal recycling mirrors (SR3, SR2 and SRM) will be suspended on "Type B" suspensions incorporating an inverted pendulum vibration isolation table for low-frequency horizontal isolation, three levels of GAS (Geometric Anti-Spring) filters for low-frequency vertical isolation, and a payload consisting of an intermediate mass and optic, each with recoil masses. Following a successful test hang, installation of the real beamsplitter is underway and preparation for the SR suspension installation is being finalized. The design and status of the suspensions is described.