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Bulk Acoustic Wave cavities for high-frequency gravitational wave antennas

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High frequency gravitational wave (GW) detection based on a cryogenic bulk acoustic wave (BAW) cavity has been explored for a several years now at the University of Western Australia. A recent paper reported the observation of rare events of uncertain origin with the first antenna of this kind. In this report we describe the work towards setting up a second site with a high-frequency GW antenna based on BAWs cavities at the University of Milano Bicocca, including preliminary characterization of commercially available BAW devices and plans towards the construction of an array of antennas providing wide-band sensitivity in a range from around 1 MHz to a few 10 MHz.

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