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## Vibrations mitigation methods to optimize colliders performance

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Vibrations induced by ground motion and technical-cultural noises on a large bandwidth can be limiting factors in the performance of future linear and circular colliders (CLIC, ILC and FCC). The movements of the accelerator elements affect both beam brightness and position at the interaction points resulting in lower luminosities of the experiments. We attempt to review the technical solutions envisaged to monitor and reduce vibration effects including passive damping, mechatronics active controls, and beam dependent controls at the interaction points. These methods are developed for various accelerators using nanobeam scheme at the interaction point such as CLIC, ATF2 and superKEKB.

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