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Mode-hop-free tuning range over 140 GHz of external cavity diode lasers[1] SOURAV DUTTA, D.S. ELLIOTT, YONG P. CHEN, Purdue University, West Lafayette, IN 47907 — We report a mode-hop-free tuning range of over 140 GHz for a home-built external cavity diode laser, using a diode whose front facet is not anti-reflection coated. We achieved this by using a short external cavity and by simultaneously tuning of the internal and external modes of the laser. The general applicability of the method, combined with the compact portable mechanical and electronic design, makes it well suited for both research and industrial applications.

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