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A Study of Excitation Dynamics of Strained Saturable Bragg Reflector by Exploiting Pulse Shaping Technique. CHAO-KUEI LEE, Y.S. LIN, C.C. HSU, IEO, NSYSU, IEO, NSYSU TEAM — In this work, we utilized pulse shaping technology to study chirp response of SSBR and attempt to analyze contribution of SSBR in mode-locked process. A home-made pulse shaping system (based on 4f scheme) with Freezing algorithm and Gerchberg-Saton algorithm was demonstrated. Decrease of pulse compression with increasing power of negative chirp incident pulse was characterized. Unclear power dependence for positive chirp case was also performed. These could be due to competition of band-filling and pump dump process. In addition, higher reflectivity and tendency of lower saturation fluence of SSBR for negative chirp incident pulse were observed.

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