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Femtosecond pulse shaping in the mid infrared region using a Dazzler TAKAMASA MOMOSE, The University of British Columbia, Tokyo Institute of Technology, CREST, JST, MASAAKI TSUBOUCHI, The University of British Columbia, CREST, JST, YUKI MIYAMOTO, Kyoto University — We present a method to produce programmable phase- and amplitude-modulated femtosecond laser pulses in the mid infrared region (MIR: 3 – 10 μm) by difference-frequency generation (DFG). The signal output (NIR: 1.1 – 1.5 μm) of an optical parametric amplifier was shaped with an acousto-optic programmable dispersive filter (Dazzler), and mixed in a $AgGaS_2$ crystal with the idler pulse temporary stretched by passing a dispersion block to generate MIR pulses. A Dazzler provides convenient and precise way of shaping femtosecond pulses in NIR region. It is, however, not well understood how the phase and amplitude modulations are transferred from a NIR pulse to a MIR pulse via DFG process. We will discuss the analysis of the shaped NIR and MIR pulses using a frequency-resolved optical gating (FROG) and an FT-IR

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