Dissolution of β-sheet stacking of peptide fibrils by using intense mid-infrared laser

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A mid-infrared free-electron laser (FEL) is operated as a pulsed and linearly polarized laser with tunable wavelengths within mid-infrared region. The vibrational excitation energy deposited into the chemical bonds at the resonant wavelength can induce dissociation of the molecular structures. In this presentation, we summarize our recent results on the FEL irradiation to various types of amyloid fibrils.