Our group explores various phenomena in high energy density plasmas such as ion acceleration, Coulomb explosion, and magnetic confinement. We contribute to the elucidation of the physics of relativistic non-equilibrium radiative plasmas. In addition, we study high energy density states generated by high-power sub-picosecond lasers, where the inflection point of plasma dynamics is obtained with high intensity lasers. In addition, we study high energy density states created with high-power lasers including vacuum physics with relativistic non-equilibrium radiative plasmas. In particular, we pursue new knowledge on material structure and optical properties under such extreme conditions and develop new technologies for large-scale simulations and for massive data processing of high energy density plasmas such as ion acceleration, Coulomb explosion, and magnetic confinement.

We achieve our goals and realize our group’s mission of developing advanced technologies that we develop. Our group promotes various phenomena in high energy density states, such as ion acceleration, Coulomb explosion, and magnetic confinement. We also contribute to the elucidation of the physics of relativistic non-equilibrium radiative plasmas. In addition, we study high energy density states generated by high-power sub-picosecond lasers, where the inflection point of plasma dynamics is obtained with high intensity lasers. In addition, we study high energy density states created with high-power lasers including vacuum physics with relativistic non-equilibrium radiative plasmas. In particular, we pursue new knowledge on material structure and optical properties under such extreme conditions and develop new technologies for large-scale simulations and for massive data processing of high energy density plasmas such as ion acceleration, Coulomb explosion, and magnetic confinement.

We promote interdisciplinary collaborations between various research divisions, which contribute to the elucidation of the physics of relativistic non-equilibrium radiative plasmas. In addition, we study high energy density states generated by high-power sub-picosecond lasers, where the inflection point of plasma dynamics is obtained with high intensity lasers. In addition, we study high energy density states created with high-power lasers including vacuum physics with relativistic non-equilibrium radiative plasmas. In particular, we pursue new knowledge on material structure and optical properties under such extreme conditions and develop new technologies for large-scale simulations and for massive data processing of high energy density plasmas such as ion acceleration, Coulomb explosion, and magnetic confinement. Our group promotes various phenomena in high energy density states, such as ion acceleration, Coulomb explosion, and magnetic confinement. We also contribute to the elucidation of the physics of relativistic non-equilibrium radiative plasmas. In addition, we study high energy density states generated by high-power sub-picosecond lasers, where the inflection point of plasma dynamics is obtained with high intensity lasers. In addition, we study high energy density states created with high-power lasers including vacuum physics with relativistic non-equilibrium radiative plasmas. In particular, we pursue new knowledge on material structure and optical properties under such extreme conditions and develop new technologies for large-scale simulations and for massive data processing of high energy density plasmas such as ion acceleration, Coulomb explosion, and magnetic confinement.