宇宙物理研究室 主催
第168回エンレイソウの会 共催

場　所： **北海道大学理学部二号館** 2-404

日　時： **平成**24**年** 3**月**30**日 (金曜日)** 14：00〜15：30

講演者： **早崎　公威　氏**

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題　目：『Origin of double peaked tidal disruption flares in Sw J1644+57』

要　旨：“ Swift J164449.3+573451 (Sw J1644+57) has been quite recently observed by the *Swift* and has the extremely luminous flare with the double peak. This is attributed to tidal disruption of a star by a massive black hole. A tidal disruption event is caused by the following processes: a star falls into the black hole from afar in a parabolic orbit. The star is then tidally disrupted around the black hole and the stellar debris is gravitationally bounded by the black hole because it looses its binding energy inside the radius where the tidal force of the black hole is balanced with the self-gravity of the star. The stellar debris finally falls back and accretes onto the black hole. Thus, the accretion rate decays with -5/3 power of time following the Kepler‘s third law. The theory of such a standard tidal disruption event can, however, provide little explanation for the double peaked light curve of Sw J1644+57. Here, we propose a new picture of the tidal disruption event that a part of the tidally disrupted star is directly accreted around the periastron and then a remaining bounded debris falls back to the black hole, following the standard theory. In this talk, I briefly report a few results which are obtained by performing three dimensional Smoothed Particle Hydrodynamics simulations based on the proposed scenario."

世話人： **羽部朝雄**

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