

R22a SuGOHI: Search for strong gravitational lenses from the HSC Survey

Anton T. Jaelani (Kindai University), Masamune Oguri (The University of Tokyo), Kenneth C. Wong (IPMU), Cristian E. Rusu (NAOJ), Anupreeta More (IUCAA), Alessandro Sonnenfeld (Leiden Observatory), James H. H. Chan (EPFL), Sherry H. Suyu (MPA), Issha Kayo (Toho University)

Strong gravitational lenses are valuable phenomena for studying astrophysics and cosmology, producing multiple images of a distant background source appears on the sky due to light rays being deflected by a massive compact object in between the source and an observer. Lensing is a unique probe of the (dark) matter distribution at large-scale and also can act as a natural telescope that magnifies the background sources, allowing for detailed studies of their properties at high resolution. The lens systems are needles in a haystack but thousands are expected to be discovered from ongoing large imaging surveys in the optical. At the present, over 300 strong gravitational lens systems have been discovered from early data release of the HSC Survey including highly compact galaxies. We discuss the different lens searching techniques that applied to and also present a summary of the latest science results of strong lensing from the HSC Survey data.