Neutron star kicks predicted from multi-dimensional CCSN simulations

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International Workshop "4M-COCOS"

Oct. 21-24, 2019 @ Fukuoka Univ.





Massive NSs have high v_NS.

- Net momentum of the ejecta (P_{gas}) is the leading factor of v_NS.

- Mass accretion onto a proto-NS leads both massive NS and high L_{ν} (\rightleftharpoons hihg E_{exp}).

- Observations present a similar trend.

