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Abstract for an Invited Paper for the NWS18 Meeting of the American Physical Society

Binary Neutron Star Mergers and Short Gamma-Ray Bursts: the case of $GW170817^1$ DAVIDE LAZZATI, Oregon State Univ

The propagation of a relativistic jet through a static ambient medium drives a bow shock that feeds a cocoon around the jet itself. As the jet breaks out, the cocoon is released, adding a mildly relativistic, wide angle component to the outflow. In this talk I will discuss the dynamics and radiative properties of the ensuing structured jet, considering both radiation from the outflow itself (the so-called prompt emission) and radiation produced by the interaction of the outflow with the interstellar medium (the so-called afterglow). The resulting electromagnetic transients will be discussed as possible interpretations for the observations of GW170817 as well as possible counterparts of future binary merger detections.

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