

Trautman - Bondi energy and the Hamiltonian description of radiation phenomena

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A toy model describing the singular boundary value problem within a light cone is used to illustrate and explain the notion of the Trautman - Bondi energy in general relativity theory. As an outcome of this approach, the Hamiltonian theory of radiation is presented. It is shown that an apparent contradiction between: 1) the reversibility of the Hamiltonian evolution and 2) the irreversibility of the time arrow uniquely attached to the Trautman - Bondi energy, does lead to any inconsistency.