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A semilinear hyperbolic system violating the null condition

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We consider a two-component system of semilinear wave equations in three space dimensions with quadratic nonlinear terms not satisfying the null condition. We prove small data global existence of the classical solution if some quantity defined from the nonlinearities is positive. It is also shown that only one component is dissipated and the other one behaves like a (non-trivial) free solution in the large time.

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