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Tadg H Woods* (woods@noether.uoregon.edu), 2880 Monroe, Eugene, OR 97405. *Lorentz Wave Maps*. Preliminary report.

Wave maps with Lorentzian targets are examined and contrasts are made to the well studied case of wave maps with Riemannian targets. The case of the base space having dimension 1+1 is explored in detail. Global existence for these geometrically defined, semi-linear, hyperbolic partial differential equations is found for certain classes of Cauchy data, and finite time blow-up is found for other classes of Cauchy data. For base space dimensions from 1+1 to 3+1, global existence is proved for expanding universe target spaces and "small Cauchy data. (Received October 03, 2000)