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St. Louis, MO 63130. *From double Lie groupoids to local Lie 2-groupoids*. Preliminary report.

We apply the bar construction to the nerve of a double Lie groupoid to obtain a local Lie 2-groupoid. As an application, we recover Haefliger's fundamental groupoid from the fundamental double groupoid of a Lie groupoid. In the case of a symplectic double groupoid, we study the induced closed 2-form on the associated local Lie 2-groupoid, which leads us to propose a definition of a symplectic 2-groupoid. (Received January 18, 2011)