1062-16-246 **Thomas Brustle***, Bishop's University, and Universite de Sherbrooke, Sherbrooke, Quebec , Canada. *On the cluster category of a marked surface without punctures.*

We study the cluster category $C(S, M)$ of a marked surface (S, M) without punctures. We explicitly describe the objects in $C(S, M)$ as direct sums of homotopy classes of curves in (S, M) and one-parameter families related to non-contractible closed curves in (S, M). Moreover, we describe the Auslander-Reiten structure of the category $C(S, M)$ in geometric terms and show that the objects without self-extensions in $C(S, M)$ correspond to curves in (S, M) without selfintersections. As a consequence, we establish that every rigid indecomposable object is reachable from an initial triangulation. (Received August 10, 2010)