ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

6. Topology

1991 MS Classification: 57, 51, 20

Estévez, José-Luis, Universidad Nacional de Educación a Distancia, Spain

A Presentation for the Mapping Class Group of a non-orientable surface from Hatcher and Thurston's

Let M be the connected sum of a sphere with k projective planes ($k \geq 3$). We consider a normal form for M. A maximal collection of embedded circles in M, say $\langle C_1, .., C_g \rangle$, we shall call a $+cut - system$, so $M - \{C_1, .., C_g\}$ is a Klein bottle or a projective plane with $2g$ holes. We study the graph of Hatcher and Thurston in the non-orientable case, say Z_g, and we prove that Z_g is connected and simply connected. From this fact and the study of $\pi_0 Diff(M - \{C_1, .., C_g\})$, we get, as in the Hatcher-Thurston's paper, a presentation for the Mapping Class Group of M.

References: A Hatcher, and W. Thurston, A presentation for the Mapping Class Group of a closed orientable surface, *Topology.* **19**(1980), 221-237