ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

6. Topology

1991 MS Classification: 57
Durfee, Alan, Mount Holyoke College
Polynomial representations of knots
A polynomial representation of a knot is defined to be a map $\mathbf{R} \to \mathbf{R}^3$ whose components are polynomials. As the degree of the polynomials approach infinity, all smooth knot types are realized. Vassiliev (On spaces of polynomial knots, Sbornik Math 187:2 (1996) 193-213) analyses the space of polynomial knots and obtains some interesting results.
I will report on the work of my 1998 summer REU (Research Experiences for Undergraduates) group on polynomial knots. This follows previous work done in my 1995 REU group which can be found at http://www.mtholyoke.edu/acad/math/reu. In particular, this work contains elementary proofs of some of Vassiliev's results.