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**Anar Akhmedov\*** (aakhmedo@math.uci.edu), 5912 Verano Place, Irvine, CA 92617. *Exotic smooth structures on manifolds with small Euler characteristic*. Preliminary report.

In this paper we develop a uniform technique that yields infinitely many distinct smooth structures on  $CP^2 \# k \bar{CP}^2$  for  $k = 5, 6$  and on  $3CP^2 \# 8 \bar{CP}^2$ . (Received August 19, 2005)