

1118-83-8

Vladimir Chernov* (vladimir.chernov@dartmouth.edu), 6188 Kemeny, Dartmouth College, Hanover, NH 03755, and **Stefan Nemirovski** (stefan@mi.ras.ru), Gubkina, d 8, Moscow, 119991, Russia. *Cosmic censorship of smooth structures.*

It is observed that on many 4-manifolds there is a unique smooth structure underlying a globally hyperbolic Lorentz metric. For instance, every contractible smooth 4-manifold admitting a globally hyperbolic Lorentz metric is diffeomorphic to the standard \mathbb{R}^4 . Similarly, a smooth 4-manifold homeomorphic to the product of a closed oriented 3-manifold N and \mathbb{R} and admitting a globally hyperbolic Lorentz metric is in fact diffeomorphic to $N \times \mathbb{R}$. Thus one may speak of a censorship imposed by the global hyperbolicity assumption on the possible smooth structures on (3+1)-dimensional spacetimes (Received October 02, 2015)