Topological Censorship
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In our paper we reported a secondary result which we ascribed to Schoen and Yau [1], stating that passive detection of spacetime topology is allowed only for a restricted set of topologies; all nontrivial topology due to a $K(\pi, 1)$ factor is passively censored. As Burnett [2] has shown, this is false; there are spacetimes in which $K(\pi, 1)$ factors are passively observable. The main topological censorship theorem is unaffected by the error.

More precisely, Theorem 2 of our paper (due to Schoen and Yau) stated the following: Given any asymptotically flat initial data set (Σ, h_{ab}, p_{ab}) with sources that obey the dominant energy condition, all nontrivial topology due to a $K(\pi, 1)$ prime factor is surrounded by a two-sphere which is an apparent horizon.

Yau [3] introduces an equivalent statement with an interpretation that incorrectly uses "black hole" instead of "black hole or white hole": "A black hole not only sucks in matter, it sucks in the topology of the spacetime in the following sense. Given any three-dimensional spatial asymptotically flat hypersurface M of a spacetime which satisfies the local energy condition, there exist mutually disjoint trapped surfaces $\Sigma_1, \Sigma_2, \dots$ and Σ_n on M so that $M \backslash (\cup_{i=1}^{n} \Sigma_i)$ is homeomorphic to the complement of several disjoint balls in a compact three-dimensional manifold which is homotopic to the connected sum of several copies of $S^2 \times S^1$ and the lens spaces." (Note that "lens spaces" should be replaced by "spherical spaces.")

The conclusion drawn from Theorem 2 that the topology was not passively observable arose from our repeating from Yau's talk (subsequently reported in [3]) the misinterpretation of "apparent horizon" in this theorem. It is standard in the relativity literature (e.g., Hawking and Ellis [4] and Wald [5]) to use this term as shorthand for "future apparent horizon". In the above theorem, however, it refers to *either* a future *or* a past apparent horizon, and one can only conclude that the $K(\pi, 1)$ factors are either within black holes or white holes. This conclusion also follows from the active topological censorship result.

An RP^3 geon was used in our paper as a counterexample to any hope that passive topological censorship holds in general. Combining this result with Burnett's example, one is led to the conjecture that *every topology is passively observable in some globally hyperbolic, asymptotically flat spacetime with positive energy.* Of course, the main result of our paper, the active topological censorship theorem, shows that no such topology can be actively probed.

[1] R. Schoen and S.-T. Yau, Commun. Math. Phys. **79**, 231 (1981).
[2] G. A. Burnett, "Counterexample to the passive topological censorship of $K(\pi, 1)$ prime factors," gr-qc/9504012 (to be published).
[3] S.-T. Yau, in *General Relativity and Gravitation: Proceedings of the 11th International Conference on General Relativity and Gravitation, Stockholm, July 6–12, 1986,* edited by M. A. H. MacCallum (Cambridge University Press, Cambridge, 1987).
[4] S. Hawking and G. Ellis, *The Large Scale Structure of Space-time* (Cambridge University, Cambridge, 1973).
[5] Robert M. Wald, *General Relativity* (University of Chicago, Chicago, 1984).

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