

**Pustyl'nikov's Criterion For The
Riemann Hypothesis: A Blowout And
Three Patches**

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School of Physical and Mathematical Sciences

The criterion in the title attaches to every zero of Riemann zeta function in the critical strip but not on the critical line an operator with eigenvalue -1 . It is shown here that the sufficient part of this criterion is wrong by deriving a contradiction. The argument involves results of Wong and Li on the asymptotics of solutions of second order difference equations. Three alternative criteria are derived.

Speaker Biography

Patrick Solé received the Ingénieur and Docteur-Ingénieur degrees both from Ecole Nationale Supérieure des Télécommunications, Paris, France, in 1984 and 1987, respectively, and the habilitation à diriger des recherches from Université de Nice-Sophia Antipolis, Sophia Antipolis, France, in 1993. He has held visiting positions in Syracuse University, Syracuse, NY, from 1987 to 1989, Macquarie University, Sydney, Australia, from 1994 to 1996, and Lille University, Lille, France, from 1999 to 2000. Since 1989, he has been a permanent member of the CNRS Laboratory I3S, Sophia Antipolis, France, and became Directeur de Recherche in 1996. His research interests include coding theory (codes over rings, quasi-cyclic codes), interconnection networks (graph spectra, expanders), vector quantization (lattices), and cryptography (boolean functions, pseudo random sequences). Dr. Solé is the recipient (jointly with Hammons, Kumar, Calderbank, and Sloane) of the IEEE Information Theory Society Best Paper Award in 1994.

Host: Prof. Frederique Oggier, Division of Mathematical Sciences, School of Physical and Mathematical Sciences
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