FAST BREAKING PAPERS - 2008

December 2008

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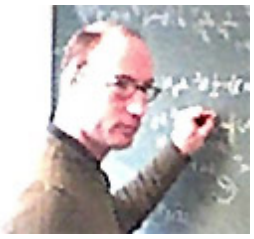
David S. Berman talks with *ScienceWatch.com* and answers a few questions about this month's Fast Breaking Paper in the field of Physics.



Article Title: M-theory branes and their interactions
Authors: Berman, DS
Journal: PHYS REP-REV SECT PHYS LETT
Volume: 456
Issue: 3
Page: 89-126
Year: JAN 2008
* Univ London, Queen Mary Coll, Dept Phys, London E1 4NS, England.
* Univ London, Queen Mary Coll, Dept Phys, London E1 4NS, England.

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SW: Why do you think your paper is highly cited?

The paper catches the wave of exciting new developments in M-theory that have taken place over the last year.

SW: Does it describe a new discovery, methodology, or synthesis of knowledge?

M-theory is the fundamental description of nature that unifies string theories and allows us to describe string theory when the strings are strongly coupled. The paper reviews the state-of-the-art in our theoretical understanding of how extended objects such as membranes interact in M-theory.

"There still so much to be done..."

SW: Would you summarize the significance of your paper in layman's terms?

The paper gives an overview of the progress and problems in the deep foundations of M-theory as well as outlining some new ideas for possible progress and new research directions.

SW: How did you become involved in this research, and were there any problems along the way?

I have been working almost continually in this field for 13 years and see the questions posed by M-theory as crucial to our understanding of nature. M-theory is about understanding the central questions in physics, such as how to quantize gravity, and, as such, have always been of interest to me.

SW: Where do you see your research leading in the future?

There still so much to be done, especially in understanding the "fivebrane" (a five dimensional object predicted by M-theory).

SW: Do you foresee any social or political implications for your research?

At the moment none. This is foundational fundamental research.

Dr. David Berman
Reader in Theoretical Physics
String Theory Group, Department of Physics
Queen Mary College
University of London
London, UK
Web

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Keywords: m-theory, membranes interact, string theory, string theories, physics, how to quantize gravity, fivebrane.

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