

Abstract Submitted  
for the MAR05 Meeting of  
The American Physical Society

**How do protozoa respond to intense magnetic fields?**<sup>1</sup> KARINE GUEVORKIAN, JAMES M. VALLES, JR., Brown University — Most microorganisms such as *Paramecium Caudatum*, swim in helical paths in nature. In the absence of any external stimuli (e.g. obstacles, electric field, heat, etc.) the axes of these helical paths, which define the trajectories, are straight lines and are distributed in random directions. Our experiments reveal that these trajectories can be manipulated by applying intense DC magnetic fields of the order of several Tesla. Swimming paramecia, for example, align their trajectories with magnetic fields in excess of about 7 Tesla in fraction of a second. We will describe this phenomenon in fields up to 25 T. We will address whether this effect is an active or passive response to the magnetic torque exerted on the diamagnetically anisotropic structures in *Paramecium*. In addition we will present results for other species as they are obtained.

<sup>1</sup>Supported by NASA OBPR under NAG8-1782. Experiments performed at The National High Magnetic Field Laboratory.

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Date submitted: 11 Jan 2005

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