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Professor J. Andel, Vice-Dean
Faculty of Mathematics and Physics
Charles University
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121 16 Praha 2
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Dear Professor Andel:

As you requested in your letter of April 25, 2006, I have read and reviewed "Yarkovsky Effect and the Dynamics of the Solar System", the Ph.D Thesis of Miroslav Broz.

The thesis considers the dynamics of asteroids, including the effect of the Yarkovsky force in moving the smaller asteroids into resonances and in reorienting the spin axes of these bodies. Since the late 1990s, this has been an extremely active research area among solar-system dynamicists. Professor David Vokrouhlicky, Mr. Broz's advisor, is one of the three or four most influential researchers in this field internationally.

Most of the thesis is based on seven published papers, on which Mr. Broz was a co-author. For the remainder of the thesis, Mr. Broz has added informative introductory material and interesting historical background. I am impressed at how comprehensive and good the thesis is. Very occasionally the English writing is not perfect, but it is always understandable. The only question that I have concerns Mr. Broz's contribution: the associated research papers were written with many other authors. So I cannot distinguish his specific contributions from those of others, and will rely on Professor Vokrouhlicky's opinion to assure Mr. Broz's contribution.

For the most part, Mr. Broz's efforts are stated to have gone into N-body simulations and their interpretations. He has carried out other numerical modeling. He has also apparently carried a few photometric observations of the asteroid (2953) Vysheslavia. In my opinion, these contributions are more than enough to satisfy the requirements for a Ph. D. thesis, although they are a less impressive achievement than the full thesis.

I congratulate the author and his advisor on their very important series of papers.

Sincerely Yours,

[redacted]

I. P. Church Professor of Engineering
Vice Provost for Physical Sciences and Engineering