INDO SWISS JOINT RESEARCH PROGRAMME (ISJRP)

RESEARCH FELLOWSHIPS

EXCHANGE GRANT REPORT

Grant No.: RF07

Part 1 - General Information

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>The linear rational collocation method for parabolic problems with equidistant points</th>
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<tr>
<td>Keywords:</td>
<td>Barycentric rational interpolation, linear rational interpolation, rational collocation method, boundary value problems</td>
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<tr>
<td>Start date:</td>
<td>June 1, 2009</td>
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<td>Duration:</td>
<td>4 months</td>
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Part 2 - Exchange Participant(s) Details

VISITING SCIENTIST

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HOSTING SCIENTIST

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Part 3 - Scientific & Technical Information

3.1 Purpose of visit

Purpose of this visit is to enhance my knowledge in the expertise of Prof. Berrut, explore a new research area and to get exposure of a European University.

3.2 Short description of work carried out during the visit

During my four months stay in Switzerland, I worked on “Singularly perturbed two-point boundary value problems”. I did my research work with Prof. Berrut. He is an expert in Rational collocation method and I used this method on the above mentioned problem on piecewise uniform Shishkin meshes.

3.3 Outcomes

During the course of the exchange, we have done work on problems mentioned under 3.2 and are writing a paper which is in preparation. We have shown that this method is working extremely well, as it delivers very precise infinitely smooth solution of such singularly perturbed two-point boundary value problems.

3.4 Future collaboration with host institution

This four months period is short. I am very keen to work further with Prof. Berrut. I would like to collaborate with him if I can get any project jointly with him. We will try very soon to obtain some funds from a European funding agency.

3.5 Various comments

I found that people are very good and helping in Switzerland. Specially, my Prof. is very helpful. I worked with him but, due to short time period, I could not work on a large problem. I hope that we will again get a chance to work together.

3.6 Projected publications/articles resulting or to result from the exchange

An article with title “Rational collocation method for singularly perturbed two-point boundary value problems” is in preparation.