An Interferometry Imaging Beauty Contest

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J.D. Monnier, M. Zhao (Univ. of Michigan)
J.S. Young, H. Thorsteinsson (Univ. of Cambridge)
S.C. Meimon, L. Mugnier, G. Le Besnerais (ONERA)
E. Thiebaut (CRAL / Obs. Lyon)
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New Frontiers in Stellar Interferometry
13:45 hrs, Friday, 25 June 2004
Motivation & Framework for the Contest

- Promote the use of the OI-FITS data format; identify problems in its definition, and revise it as necessary.
- Engage the interferometry community in a formal assessment of existing imaging software.
- Encourage the development of new software tailored to the needs of optical interferometry.
Figure 3. Entries by H. Thorsteinsson and J.S. Young. Results from reconstruction of the contest data sets using BSMEM. The contour levels are at 2, 10, 20, 30, 40, 50, 60, 70, 80, and 90%.
WISARD
S. Meimon, L. Mugnier, G. Le Benerais (ONERA)

Figure 4. Entries by S.C. Meimon et al. Contour levels are at 10, 20, 30, 40, 50, 60, 70, 80, and 90% of the maximum.

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New Frontiers in Stellar Interferometry,
Glasgow, Scotland.

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25 June 2004
MIRA

E. Thiebaut (CRAL / Obs. de Lyon)

Figure 7. Entries by E. Thiebaut. Contour levels are at 10, 20, 30, 40, 50, 60, 70, 80, and 90% of the maximum.
Data Set 1

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Data Set 2

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Table 2. Imaging Beauty Contest Results

<table>
<thead>
<tr>
<th></th>
<th>Data Set 1</th>
<th>Data Set 2</th>
<th>(\sum \sigma /\text{peak})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(\sigma)</td>
<td>(\sigma /\text{peak})</td>
<td>(\sigma)</td>
</tr>
<tr>
<td>BSMEM</td>
<td>0.000079</td>
<td>0.38</td>
<td>0.00035</td>
</tr>
<tr>
<td>WISARD</td>
<td>0.00034</td>
<td>1.52</td>
<td>0.00049</td>
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<tr>
<td>VLBMEM</td>
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<td>1.07</td>
<td>0.0024</td>
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<tr>
<td>MIRA</td>
<td>0.0012</td>
<td>5.36</td>
<td>0.0016</td>
</tr>
</tbody>
</table>

Data 1 peak = 2.239 \times 10^{-4} \quad Data 2 peak = 3.0677 \times 10^{-1}

The clear winner by this measure is H. Thorsteinsson and J.S. Young, the BSMEM entry.

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