HESSIAN ENERGY AND
OPTIMAL PARAMETRISATIONS
OF SURFACES

Yi Fang   *John E. Hutchinson*

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Postal Address:

Department of Mathematics
Australian National University
Canberra, ACT 0200,
AUSTRALIA

email:

Yi.Fang@maths.anu.edu.au
John.Hutchinson@anu.edu.au

Abstract   Suppose $S \subset I\!\!R^n$ is a smooth surface with boundary, having the same topological type as the disc. We consider the problem of obtaining "optimal" parametrisations $Y : \overline{\Omega} \ (\subset I\!\!R^2) \to S$ where both Ω and Y are arbitrary. We give a positive answer to various formulations of this problem, which we call the *Cartography Problem*. Some examples, related problems, and regularity results are also considered.