SOME COMPUTATIONS OF CONDUCTORS IN A NETWORK

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ABSTRACT. This paper contains the results of computations of the values of conductors in a resistor network. The accuracy of the calculations is of the order of 2 parts in 10 for a $14 \times 14$ network.

1. INTRODUCTION

We follow the notation and terminology of Curtis and Morrow [1]. We first make some calculations of $A$-matrices (Dirichlet to Neumann maps). These matrices are then used as input to the algorithm for calculating the values of the conductors in a network. We will refer to this algorithm as the inverse algorithm. This algorithm could be improved by using a method suggested by Landrum [2].

2. RESULTS

The largest network that could be “successfully” recovered was a $14 \times 14$ network with all conductivities equal to 1. The largest error made was in a vertical conductor in the center. The value computed was $79875630847448$. The computed results are attached.

REFERENCES