



Properties of sub-matrices of Sylvester matrices and triangular toeplitz matrices

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(Submitted on 12 Jul 2011)

In this note we discover and prove some interesting and important relations among sub-matrices of Sylvester matrices and triangular toeplitz matrices. The main result is Hill's identity discovered by R. D. Hill which has an important application in optimal control problems.

Subjects: **Optimization and Control (math.OC)**
MSC classes: 15A24
Cite as: **arXiv:1107.5340 [math.OC]**
(or **arXiv:1107.5340v1 [math.OC]** for this version)

Submission history

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