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([kirsten.morris@bobcats.gcsu.edu](mailto:kirsten.morris@bobcats.gcsu.edu)), **Dianne Pedroza** and **Jack Ryan**. *A Matrix Completion Problem for the skew-Symmetric Equation  $AX - A^T X = 0$* . Preliminary report.

A matrix completion problem examines a partial matrix composed of specified and unspecified entries and determines if this partial matrix can be completed to satisfy some given property. We determine if partial matrices can be completed to satisfy the skew-Symmetric equation  $AX - A^T X = 0$ . If a partial matrix  $X$  with a certain pattern of specified and unspecified entries can be completed for almost any matrix  $A$  to satisfy the skew-Symmetric equation, we call the pattern *admissible*. Using the Kronecker product, we rewrite the matrix equation as a linear equation, and examine the structure of the nullspace of this linear equation to characterize patterns as admissible or not. Through this approach we obtain a complete characterization of admissible and inadmissible patterns for the skew-Symmetric Equation. (Received September 21, 2015)