1030-05-158 **Ibtisam Daqqa*** (idaqqa@mail.usf.edu), Department of Mathematics, University of South Florida, 4202 E. Fowler Ave Phy 114, Tampa, FL 33620, and **Brian Curtin**. *The subconstituent algebra of a Latin square.*

We describe the subconstituent algebra $\mathcal{T}(p)$ of the Bose-Mesner algebra of a Latin square with respect to any base point p. We show that $\mathcal{T}(p)$ is isomorphic as an abstract algebra to $\mathbb{M}_5 \oplus \mathbb{M}_6^{n-2} \oplus \mathbb{M}_1^{n^2-6n+7}$, where $\mathbb{M}_k$ denotes the complex algebra of $k \times k$ complex matrices and the exponents give the multiplicity of each summand.

We describe the action on each irreducible $\mathcal{T}(p)$ module in terms of a simple structure of the Latin square. (Received July 31, 2007)