

1135-30-2979

**M Chasse, T Forgacs and A Piotrowski\*** ([apiotrowski@alaska.edu](mailto:apiotrowski@alaska.edu)), 11066 Auke Lake Way, Juneau, AK 99801. *Polynomially Interpolated Legendre Multiplier Sequences.*

We prove that if a multiplier sequence for the Legendre basis can be interpolated by a polynomial, then the polynomial must have the form  $\{h(k^2 + k)\}_{k=0}^{\infty}$ , where  $h \in \mathbb{R}[x]$ . We also prove that a non-trivial collection of polynomials of a certain form interpolate multiplier sequences for the Legendre basis, and we state conjectures on how to extend these results. (Received September 26, 2017)