Hasan Alnajjar (h.najjar@ju.edu.jo), Department of Mathematics, University of Jordan, Jordan, and Brian W Curtin* (bcurtin@math.usf.edu), Department of Mathematics and Statistics, University of South Florida, 4202 E. Fowler Ave. PHY 114, Tampa, FL 33620. Leonard pairs associated with $\mathrm{sl}_{2}$.
The equitable basis $x, y, z$ of the Lie algebra $s l_{2}$ satisfies $[x, y]=2 x+2 y,[y, z]=2 y+2 z,[z, x]=2 z+2 x$. We show that every Leonard pair $A, A^{*}$ of classical type (Racah, Hahn, dual Hahn, or Krawtchouk) acts as a linear combination of $I, x, y, x y$ and $I, y, z, y z$, respectively. We then discuss extending these Leonard pairs to Leonard triples from this perspective. (Received February 26, 2009)

