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**Gi-Sang Cheon\*** (gscheon@skku.edu), , South Korea. *A new aspect of Riordan arrays.*

A Riordan array denoted as  $(g, f)$  is an infinite lower triangular matrix constructed out of two formal power series  $g, f \in \mathbb{F}[[z]]$  with  $f(0) = 0$  in such a way that its  $k$ th column generating function is  $gf^k$  for  $j \geq 0$ . In many contexts, we see that the Riordan arrays are used as a machine to generate new approaches in enumerative combinatorics, graph theory, matrix theory, orthogonal polynomials, umbral calculus, analytic number theory, etc. Particularly, this talk will be devoted to discussing a new aspect of Riordan arrays in connection with a poset and semigroup algebra  $\mathcal{A}[S]$  of  $S$  of the form:

$$\mathcal{A}[S] = \left\{ \sum_{\alpha \in S} c_{\alpha} \alpha \mid c_{\alpha} \in \mathbb{F} \right\}$$

where  $(S, \star)$  is a commutative semigroup such that for each  $\alpha \in S$  there are only finitely many  $(\beta, \gamma)$  such that  $\beta \star \gamma = \alpha$ . (Received September 18, 2018)