

---

**YONG SU SHIN**, Sungshin Women's University

*The Minimal Free Graded Resolution of A Star-Configuration in  $\mathbb{P}^n$*

We find the minimal free graded resolution of the ideal of a star-configuration in  $\mathbb{P}^n$  of type  $(r, s)$  defined by general forms in  $R = \mathbb{k}[x_0, x_1, \dots, x_n]$ . This generalises the result of Ahn and Shin from a specific value of  $r = 2$  to any value of  $1 \leq r \leq \min\{n, s\}$ , and that of Geramita, Harbourne, and Migliore from a linear star-configuration in  $\mathbb{P}^n$  to a star-configuration in  $\mathbb{P}^n$ . Moreover, we show that any star-configuration in  $\mathbb{P}^n$  is arithmetically Cohen-Macaulay.