1125-VN-2705 **Andres Israel Zumba Quezada*** (`andreszumba@mail.fresnostate.edu`), N5251 Barton Graves 325A, Fresno, CA 93710-8234, and **Khang D Tran** (`khangt@csufresno.edu`). *Zero distribution of a sequence of polynomials with a recurrence of degree three.*

We study the zero distribution of a sequence of polynomials $P_n(z)$ defined by a recurrence of degree three

$$P_n(z) = aP_{n-1}(z) + bP_{n-2}(z) + cP_{n-3}(z) + zP_{n-r},$$

where $1 \leq r \leq 3$ and a, b, c are real numbers. We show that under certain conditions on a, b, and c, the zeros of P_n will lie on an explicit real interval and are dense there as $n \to \infty$. (Received September 20, 2016)

1