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**Khang D. Tran\*** (khangdtran@gmail.com), 2105 Hazelwood Drive, Apt 304, Urbana, IL 61801.

*Connections between discriminants and the root distribution of polynomials with rational generating functions.*

Let  $H_m(z)$  be a sequence of polynomials and  $D(z, t)$  be the denominator of its generating function  $\sum_{m=0}^{\infty} H_m(z)t^m$ . We show that in some cases, the roots of  $H_m(z)$  are dense as  $m \rightarrow \infty$  on some fixed arcs whose equations are explicitly given and whose endpoints are the roots of  $\text{Disc}_t D(z, t)$ . The proofs involve the  $q$ -analogue of discriminant, a concept introduced by Mourad Ismail. (Received September 10, 2011)