Title: A Szego theorem for truncated Toeplitz operators

Toeplitz operators (with giant Toeplitz matrices) on $\ell^2(\mathbf{N})$ or the Hardy space H^2 can be interpreted as compositions of multiplications (by a 'symbol' function f) and orthogonal projections. A classical Szegö limit theorem states that, for reasonable real valued functions ϕ and f, if T_n is the $n \times n$ upper left hand corner of the Toeplitz matrix with symbol ϕ, then

$$\lim_{n\to\infty} Trace(f(T_n)) = \frac{1}{2\pi}\int_0^{2\pi} f(w(\theta))d\theta.$$

Recently a survey by Donald Sarason aroused much interest in 'truncated Toeplitz operators' on 'model spaces'. Model spaces are subspaces of $\ell^2(\mathbf{N})$ which 'generalize' the polynomials; and truncated Toeplitz are generalizations of Toeplitz matrices. I will speak about these operators and Szegö -type theorems which hold for them.

References

[1] Sarason, D. Algebraic properties of truncated Toeplitz operators. *Oper. Matrices 1* (2007), 491–526.

[2] Strouse, E., Timotin, D. , Zarrabi, M A Szegö type theorem for truncated Toeplitz operators. *preprint* (2017).