1017-30-95 **Richard Fournier*** (fournier@dms.umontreal.ca). *On a question of Korevaar and Brézis concerning a class of square summable sequences.* Preliminary report.

We consider sequences $\{a_n\}_{n=-\infty}^{\infty}$ of complex numbers such that

$$\sum_{n=-\infty}^{\infty} a_n \bar{a}_{n+k} = \begin{cases} 0 & \text{if } k \neq 0, 1 \\ & \text{if } k = 0. \end{cases}$$

Under the additional condition $\sum_{n=-\infty}^{\infty} |n|\,|a_n|^2 < \infty$, Brézis and Nirenberg (1995) proved that $\sum_{n=-\infty}^{\infty} n|a_n|^2$ is an integer. Their proof involved duality in Sobolev and VMO spaces of functions and it has been asked whether a more direct proof of this fact exists (Korevaar (1999), Brézis (2004)). We shall in this talk outline such a proof.

Joint work with St. Ruscheweyh and Luis Salinas.

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