1023-60-926 **Aurel Iulian Stan*** (stan.7@osu.edu), 1465 Mount Vernon Avenue, Marion, OH 43302. *Best constants in norms of non-gaussian Wick products.* Preliminary report.

It is known that, if $X$ is a normally distributed random variable, then for any polynomials $f$ and $g$, and any positive numbers $p$ and $q$, such that $(1/p)+(1/q)=1$, the following inequality holds:

$$E[|f(X)\diamond g(X)|^2] \;\leq\; E[|\Gamma(\sqrt{p}I)f(X)|^2]E[|\Gamma(\sqrt{q}I)g(X)|^2],$$

where, for any complex number $c$, $\Gamma(cI)$ denotes the second quantization operator of $c$ times the identity operator $I$, $f(X)\diamond g(X)$ the Wick product of $f(X)$ and $g(X)$, and $E[\,\cdot\,]$ the expectation. Moreover, the following inequality also holds:

$$E[|f(X)\diamond g(X)|^2] \;\leq\; \binom{m+n}{m}E[|f(X)|^2]E[|g(X)|^2],$$

where $m$ and $n$ denote the degrees of the polynomials $f$ and $g$, respectively. We will show that the first inequality can be extended to all non-gaussian random variables $X$, having finite moments of any order, whose Szegö-Jacobi omega sequence is sub-additive, while the second inequality can be generalized to all random variables for which the omega sequence is super-additive. (Received September 23, 2006)