1056-39-771 **Vadim Tkachenko*** (tkachenk@math.bgu.ac.il), Department of Mathematics, Ben-Gurion University of the Negev, P.O.B.653, 84105 Beer-Sheva, Israel. *Differential-difference Equations in Entire Functions.*

For a linear differential-difference equation

$$\sum_{k=0}^{m}\sum_{j=0}^{p_k} a_{jk}(z)\phi^{(j)}(z+\alpha_k) = \gamma(z)$$

with real shifts in the complex plane we prove a theorem of existence of entire solutions for an arbitrary entire function in the r.h.s. and, using it, show that the space of entire solutions of the corresponding homogeneous equation is infinite dimensional. This is the joint talk with G.Belitskii. (Received September 17, 2009)