1039-05-71 **Jeong Ok Choi*** (jchoi@math.uiuc.edu), 250 Altgeld Hall, 1409 W. Green, Urbana, IL.
Forbidden characterization of the fractional weak discrepancy of posets.

For a finite poset $P = (X, \prec)$ the fractional weak discrepancy (denoted by $\mathrm{wd}_F(P)$) is defined as the minimum value t for which there is a function $f : X \longrightarrow \mathbb{R}$ such that $(1) f(x) + 1 \leq f(y)$ whenever $x \prec y$ and $(2) |f(x) - f(y)| \leq t$ whenever $x \parallel y$ in P. It is known that $\mathrm{wd}_F(P) < 1$ if and only if P is a semiorder. In other words, using a forbidden characterization of semiorders, $\mathrm{wd}_F(P) < 1$ if and only if P does not contain either $\mathbf{2} + \mathbf{2}$ or $\mathbf{1} + \mathbf{3}$ as its subposet. In this talk, for each nonnegative integer m we will provide a family of forbidden subposets of P as an equivalent condition of being that $\mathrm{wd}_F(P) \leq m$. (Received March 06, 2008)