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**Ran Zhuo\*** (zhuoran1986@126.com) and **Fengquan Li**. *Liouville type theorems for Schrödinger system in a half space.*

Let  $R_+^n$  be the upper Euclidean space, we study positive solutions of the following higher order Schrödinger systems:

$$\begin{cases} (-\Delta)^m u(x) = u^{\beta_1}(x)v^{\gamma_1}(x), & \text{in } R_+^n, \\ (-\Delta)^m v(x) = u^{\beta_2}(x)v^{\gamma_2}(x), & \text{in } R_+^n, \end{cases} \quad (1)$$

with Dirichlet boundary conditions or Navier boundary conditions.

We show that these problems are closely related to integral systems. Combining method of moving planes in integral forms with a certain type of Kelvin transforms, we prove that the positive solutions are either monotone increasing or are rotationally symmetric. In either cases, we derive a contradiction and thus establish the non-existence of solutions of the integral systems. Here we only assume local integrability for the solutions. (Received February 19, 2013)