Consider
\[
\begin{cases}
  (-\Delta)^{\alpha/2} u(x) = f(x, u(x), v(x)), & x \in \Omega, \\
  (-\Delta)^{\beta/2} v(x) = g(x, u(x), v(x)), & x \in \Omega, \\
  u(x) = v(x) = 0, & x \in \mathbb{R}^n \setminus \Omega,
\end{cases}
\]
where $f, g \in C(\Omega, R^2)$, $\Omega$ is bounded in $\mathbb{R}^n$ and $\partial \Omega$ is $C^2$. When the solution $(u, v)$ is a priori bounded, under some assumptions on $f(x, t, s)$ and $g(x, t, s)$ about their super-linearity with respect to $t$ and $s$ near zero and infinity, we prove that there exists at least one positive solution $(u, v)$ using the topological degree theory. (Received September 05, 2019)