Lingju Kong* (lingju-kong@utc.edu). *Uniqueness of weak solutions for a biharmonic system.*

We study the biharmonic system

\[
\begin{aligned}
\Delta (|\Delta u|^{p(x)-2}\Delta u) &= a(x)|u|^{p(x)-2}u + f(x,u,v) \quad \text{in } \Omega, \\
\Delta (|\Delta v|^{q(x)-2}\Delta v) &= b(x)|v|^{q(x)-2}v + g(x,u,v) \quad \text{in } \Omega, \\
u = \Delta u = 0, \quad v = \Delta v = 0 \quad &\text{on } \partial \Omega,
\end{aligned}
\]

Using monotone operator theory, we prove that, under some suitable conditions, the above system has a unique weak solution. We also discuss some properties of the solution. (Received August 26, 2020)