

1015-93-72

Louis Tebou* (teboul@fiu.edu), University Park, Miami, FL 33199. *Approximate controllability of the heat equation in a domain with small holes.* Preliminary report.

We consider a controlled heat equation in a bounded domain with infinitely many holes. The control is located on a nonvoid open subset. We prove that this system is uniformly (with respect to the size of the holes) approximately controllable. Afterwards we show that the sequence of approximate controls converges in a suitable topology to the approximate control with minimal norm of the homogenized system. Finally, we discuss some possible extensions of our results. (Received January 24, 2006)