

**Singular p -Laplacian parabolic system in exterior domains:
higher regularity of solutions and related properties
of extinction and asymptotic behavior in time**

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Abstract. We consider the IBVP in exterior domains for the p -Laplacian parabolic system. We prove regularity up to the boundary, extinction properties for $p \in \left(\frac{2n}{n+2}, \frac{2n}{n+1} \right)$ and exponential decay for $p = \frac{2n}{n+1}$.

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