

## Conditional regularity for $p$ -heat systems with critical right hand side

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We will present the progress in our work on conditional regularity for  $p$ -parabolic systems with rhs bounded only by  $p$ -th power of gradient of the solution. As of now, we obtained a result assuming that a solution belongs to  $L^p(W^{2,p})$  and its  $BMO$  norm is uniformly small in time. Our method relies on a Gagliardo-Nirenberg type inequality due to Riviere and Strzelecki. This is joint work with K. Kazaniecki, K. Mazowiecka and P. Strzelecki.