1097-35-265 **Gianluca Mola*** (gianluca.mola@polimi.it), Politecnico di Milano. *Recovering the reaction and the diffusion coefficients in a linear parabolic equation.*

Let H be a real separable Hilbert space and $A : \mathcal{D}(A) \to H$ be a positive and self-adjoint (unbounded) operator. We consider the identification problem consisting in searching for a H-valued function u and a couple of real numbers λ and μ, the first one being positive, that fulfill the initial-value problem

$$u'(t) + \lambda\, Au(t) = \mu\, u(t), \quad t \in (0, T), \quad u(0) = u_0,$$

and the additional constraints

$$\|A^{r/2}u(T)\|^2 = \varphi \quad \text{and} \quad \|A^{s/2}u(T)\|^2 = \psi,$$

for some time-instant $T > 0$, where we denote by A^s and A^r the powers of A with exponents $r < s$. Provided that the given data u_0 and φ, $\psi > 0$ satisfy proper *a priori* limitations, using a Faedo-Galerkin approximation scheme we construct a unique solution (u, λ, μ) on the whole interval $[0, T]$, and exhibit an explicit continuous dependence estimate-of Lipschitz-type-with respect to the data. Also, we provide specific applications to second and fourth-order parabolic initial-boundary value problems. The results are obtained in collaboration with A. Lorenzi. (Received January 24, 2014)