BMO-estimates for BSDEs

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Abstract:
For certain standard BSDEs of the form

$$dY_t = -f(t, Y_t, Z_t)dt + Z_t dW_t,$$

where f is a random generator and $W = (W_t)_{t\in[0,T]}$ is a Brownian motion, we provide upper bounds for the variation of the solution processes (Y, Z) in terms of weighted BMO-spaces (spaces of bounded mean oscillation). From these weighted BMO-bounds we deduce tail estimates using John-Nirenberg type theorems.

This is joint work with S. Geiss (Innsbruck, Austria).