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Sommario/riassunto	Techniques based on numerical simulations have been applied to the analysis of the heat exchanger and the High Temperature Superconductor (HTS) module of HTS current leads. In the first case correlations have been derived for the meander flow geometry. In the second case steady state and transient thermal-electric models have been validated. Both techniques are used to design and optimize HTS current leads. The correlations were applied to a predictive analysis of the ITER HTS current leads.