Dedicated heat transport experiments in JET, based on ICRH heat flux scans and temperature modulation, have confirmed the importance of the stabilizing effect that the gradient of the total pressure (including the fast ion component, which may be a large fraction) has on ITG driven ion heat transport [1,2], reducing the (otherwise large) ion stiffness. In the first set of JET experiments, the fast ion pressure was mainly provided by NBI heating, making it coupled with rotation. The identification of the fast ion enhanced electromagnetic (e.m.) non-linear stabilization (and not rotation as originally hypothesized) as the mechanism explaining the observed loss of ion stiffness was mainly based on non-linear e.m. gyro-kinetic simulations using GENE [3]. They showed for these plasmas a small effect of rotation on ITG threshold and no effect on ion stiffness, which was instead strongly reduced by the pressure gradient. The GENE results have recently been confirmed by GYRO [4] simulations of the same JET cases [5], strengthening the reliability of this interpretation. However, from the experimental standpoint, a demonstration that fast ion enhanced e.m. stabilization and not rotation was the key factor for ion destiffening was impossible in JET, due to lack of ICRH power. Results in this direction were instead obtained in DIII-D where both co- and balanced NBI heating is available [6]. In the last JET campaign, more ICRH power has become available due to the operation of the ITER-like antenna, leading to ~ 7 MW ICRH total power. A second set of JET experiments on fast ion enhanced e.m. stabilization has then been performed, at very low NBI power (required for active charge exchange measurements), and maximizing ICRH fast ions in conditions of very low rotation. As predicted by gyro-kinetic simulations, evidence for ion destiffening was obtained, providing the experimental demonstration on JET that the effect is not linked with rotation, which is promising for ITER. Turbulence measurements using Doppler backscattering were also performed. All this work leads to the conclusion that the non-linear e.m. stabilization mechanism is a potentially major player for increasing fusion performance in certain plasma regimes (typically low collisionality, low magnetic shear). At the moment, the effect is included in non-linear e.m. gyro-kinetic simulations, which reproduce the experimental data well [2, 5], however it is not included in quasi-linear models used for scenario predictions, where only the ion dilution, the geometric stabilization due to $\alpha$-parameter and the linear e.m. effects are included. In order to encourage work in this direction, a test of the recent QL models TGLF [7] and QuaLiKiz [8] on 2 JET discharges with stiff and non-stiff ions has been carried out. Results of this validation exercise will be reported.