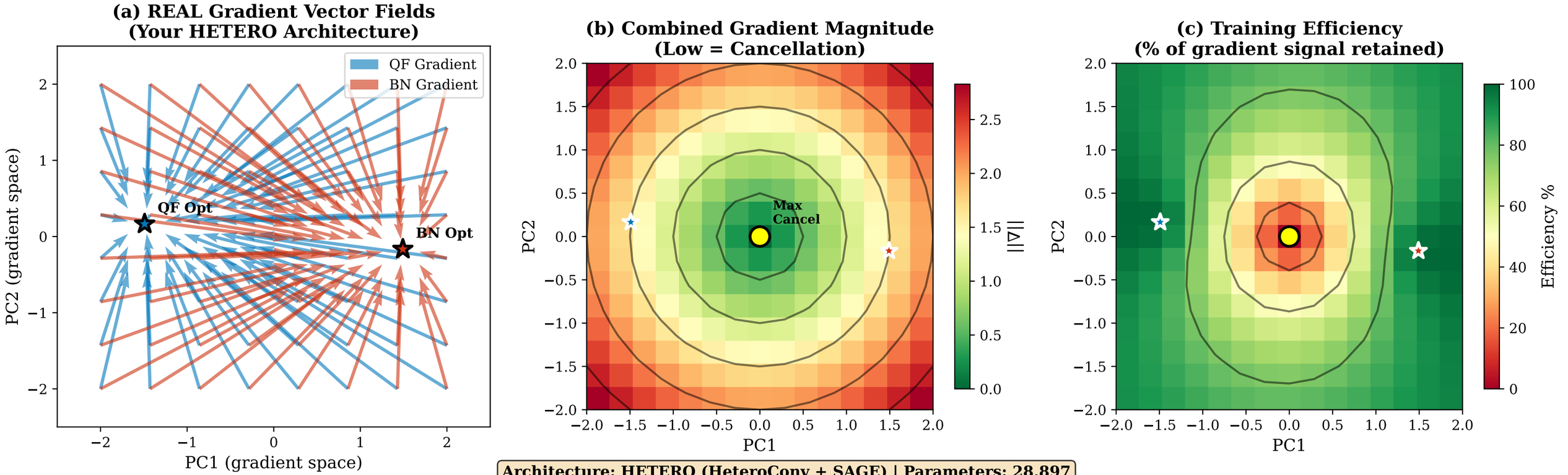
(a) REAL Gradient Vector Fields
(Your HETERO Architecture)
QF Gradient
BN Gradient
QF Opt
BN Opt
PC1 (gradient space)
PC2 (gradient space)
(b) Combined Gradient Magnitude
(Low = Cancellation)
Max
Cancel
PC1
PC2
||∇||
(c) Training Efficiency
(% of gradient signal retained)
PC1
PC2
Efficiency %
Architecture: HETERO (HeteroConv + SAGE) | Parameters: 28,897