

$$\left(v^{(ij)}\right)^T \nabla f\left(x^{(i)}\right) \leq s^{(ij)}+a^{(ij)} \quad\left(-v^{(ij)}\right)^T \nabla f\left(x^{(i)}\right) \leq a^{(ij)}-s^{(ij)} .$$