Correction to: A partially isochronous splitting algorithm for three-block separable convex minimization problems

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The original publication of this article has an error. From lines 7 to 15 on page 8, all the variable $\mathbf{x}_i$ ($\mathbf{x}_i^*$) should be corrected by ξ (ξ^*), that is, lines 5–15 on page 8, it should be

“Due to the convexity of θ , it then follows from [39, Def. 3.1.6] that

$$\theta(\hat{\mathbf{x}}) + (\mathbf{x} - \hat{\mathbf{x}})^\top \xi \leq \theta(\mathbf{x}), \quad \forall \mathbf{x} \in \mathbb{R}^n,$$

where ξ is a subgradient of θ at $\hat{\mathbf{x}} \in \Omega$, i.e., $\xi \in \partial\theta(\hat{\mathbf{x}})$ with $\partial\theta(\hat{\mathbf{x}})$ being the subdifferential of function θ at point $\hat{\mathbf{x}} \in \Omega$. Moreover, it is known from [1, Section 26.2:

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Proposition 26.5 (vi)] (see also [2, Section 3.5: Page 265 (b)]) that $\mathbf{x}^*$ is a solution (minimizer) to (8) if and only if there exist $\mathbf{x}^* \in \Omega$ and $\xi^* \in \partial\theta(\mathbf{x}^*)$ such that

$$(\mathbf{x} - \mathbf{x}^*)^\top \xi^* \geq 0, \quad \forall \mathbf{x} \in \Omega,$$

which is the so-called *variational inequality*, the first-order optimality condition of model (8). Consequently, a minimizer $\mathbf{x}^*$ of (8) must satisfy

$$\theta(\mathbf{x}) - \theta(\mathbf{x}^*) \geq (\mathbf{x} - \mathbf{x}^*)^\top \xi^* \geq 0."$$

The original article was updated and republished.