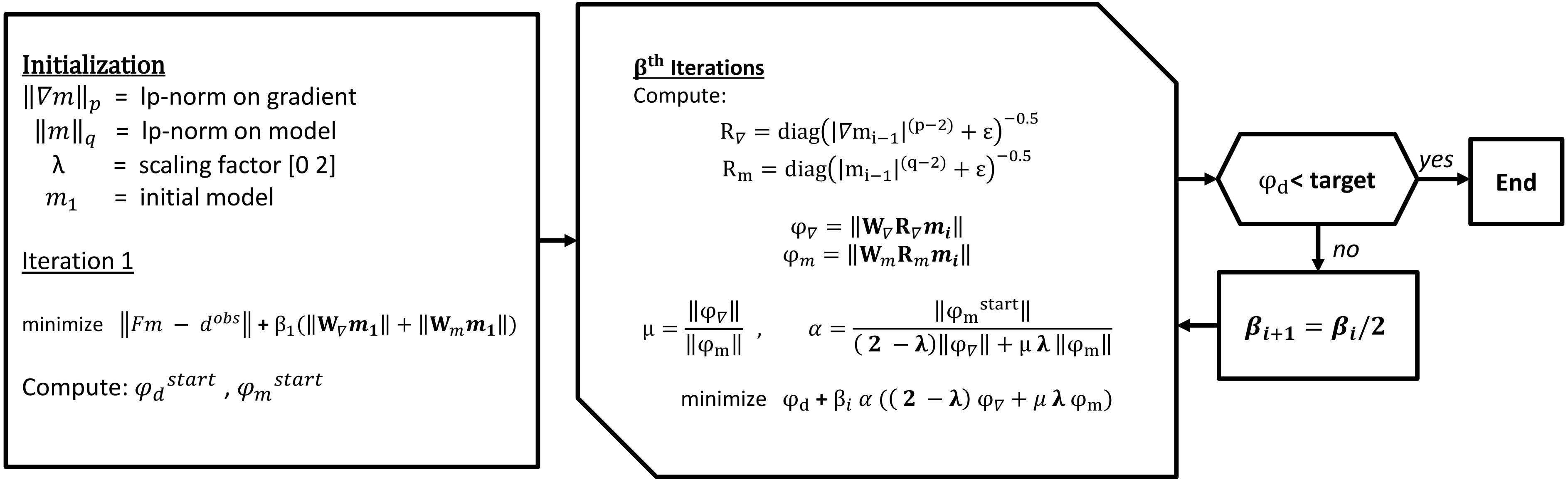
Initialization
$\|\nabla m\|_p$ = lp-norm on gradient
$\|m\|_q$ = lp-norm on model
λ = scaling factor [0 2]
m_1 = initial model
Iteration 1
minimize $\|Fm - d^{obs}\| + \beta_1(\|\mathbf{W}_\nabla \boldsymbol{m_1}\| + \|\mathbf{W}_m \boldsymbol{m_1}\|)$
Compute: $\varphi_d{}^{start}$, $\varphi_m{}^{start}$
β^{th} Iterations
Compute:
$R_\nabla = \mathrm{diag}\left(|\nabla m_{i-1}|^{(p-2)} + \varepsilon\right)^{-0.5}$
$R_m = \mathrm{diag}\left(|m_{i-1}|^{(q-2)} + \varepsilon\right)^{-0.5}$
$\varphi_\nabla = \|\mathbf{W}_\nabla \mathbf{R}_\nabla \boldsymbol{m_i}\|$
$\varphi_m = \|\mathbf{W}_m \mathbf{R}_m \boldsymbol{m_i}\|$
$\mu = \frac{\|\varphi_\nabla\|}{\|\varphi_m\|}$, $\alpha = \frac{\|\varphi_m{}^{start}\|}{(\mathbf{2} - \boldsymbol{\lambda})\|\varphi_\nabla\| + \mu\,\boldsymbol{\lambda}\,\|\varphi_m\|}$
minimize $\varphi_d + \beta_i\, \alpha\, ((\mathbf{2} - \boldsymbol{\lambda})\, \varphi_\nabla + \mu\, \boldsymbol{\lambda}\, \varphi_m)$
φ_d< target
yes
End
no
$\boldsymbol{\beta_{i+1} = \beta_i/2}$