```
\min_{x\in\Omega}f(x).
  p, l_{pi}

\Omega = \{s_p \in R \mid s_p \in 
  s_{p,min} < s_p < s_p < s_p
  s_{p,max} \{l_{pi} \in R \mid
    l_{pi,min} < l_{pi} < l
     l_{pi,max}

\begin{array}{l}
l_{pi} \\
f(q_{inj}; x) \\
q_{inj}
\end{array}

\theta(q_{inj}; x)

 (\underline{\underline{p}}, l_{pi})
  \sum_{i=1}^{n} \left[ \theta(q_{inj}^{n}; x) - \frac{1}{2} \right]^{2}
f(q_{inj}^n;x))\Big]^2
q_{inj}^1,q_{inj}^2,\dots,q_{inj}^n
p_{i,min}^1 = 15
  l_{p,max}^{9} = 35, min = 2000, p,max = 7000
  \begin{array}{l} \vdots \\ executable_command('pythonpipesim_run.py') \\ pressure = \end{array}
    Parameter(kind = '
  real', default = sp, bound = (2000, 7000), name = '
(2000, 7000), name = sp', description = '
StaticPressure') liq_p i = Parameter(kind = '
real', default = pi, bound = (15, 35), name = '
sp', description = '
  pi', description ='
LiqPI'
    _{p}aram(static_{p}ressure)FD.add_{p}aram(liq_{p}i) \\
    _{m}easure(error)
  \begin{array}{l} ... \\ error(parameters, measures): \\ returnsum(measures["ERROR"]) \end{array}
     _{e}rror)Unconstrained model =
     Mod\acute{e}l(modelData =
    data, model Structure =
  \begin{array}{l} struct) \\ TARGET = \\ 0.1 \\ ?? \\  \end{array}
  4000,691
    l_{pi} = 24,954
  Custo = 0,0757.
  s_p = 4000
 \begin{array}{l} 25\\ eval_points.pdfPontosescolhidospeloNOMAD.\\ errors.pdfErronospontosavaliados.\\ parameter(name =\\ "MODEL_SEARCH", value =\\ "STELIB")\\ n =\\ \end{array}
  4001,389
    L_{pi} = 24,905
  10^{64}
```

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