Optimization

```
optim.surr <- function(f, ninit, stop, tol=1e-4)
 {
    X <- randomLHS(ninit, 2)
    y <- f(X)
    gpi <- newGPsep(X, y, d=0.1, g=1e-7, dK=TRUE
```

- which basically revisited Mockus' Bayesian optimization idea from a Gaussian process and computer experiments perspective.

He came up with a heuristic called expected improvement (EI)

```
solns <- EI.search(
```

```

```

```

```

```

```

Encapsulating function

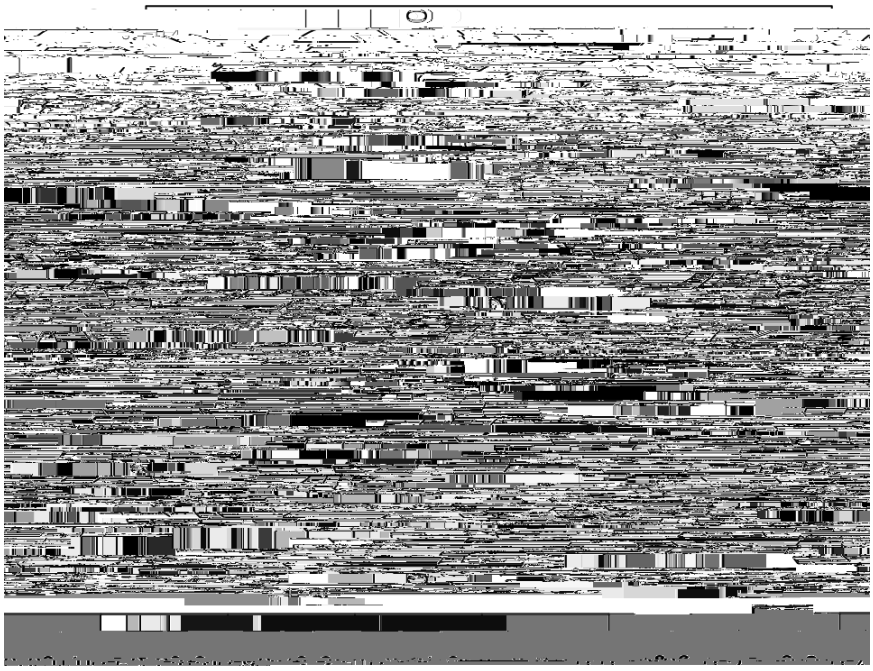
```
optim.EI
```

- where two non-linear constraints are given by

Even when treating

- serves as a Lagrange multiplier

T



Other demos

For further comparison with `optim` directly on the AL,

- see `demo("ALfhat")` in the `laGP` package.

Two other demos show a mixed constraints setup

- A 2d problem (`"GSBP"`) involving