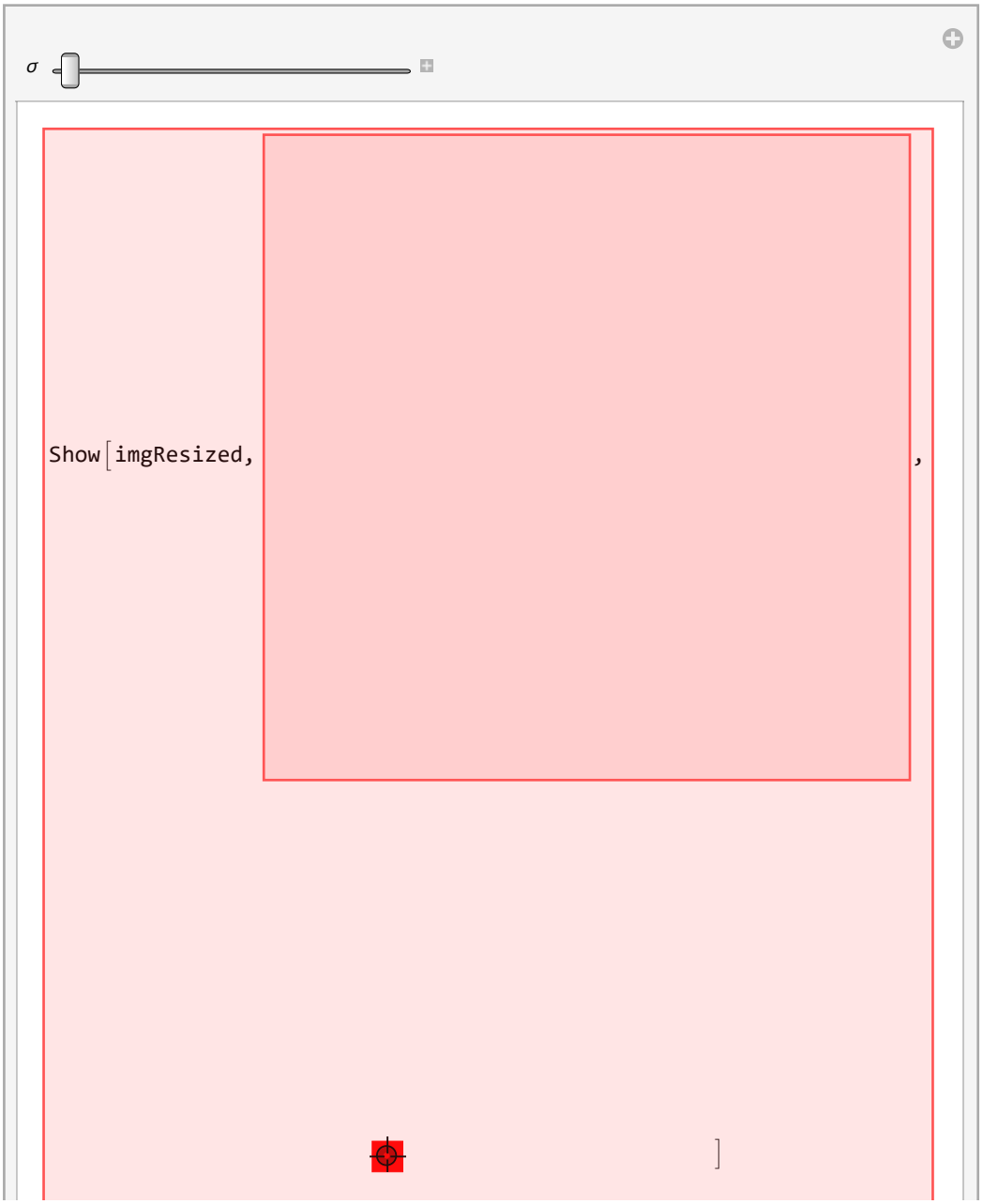
```
img =
```


```
;

imgResized = ImageResize[img, Scaled[0.25]];
SetOptions[EvaluationNotebook[], ImageSizeMultipliers → {1, 1}];
imgSize = ImageDimensions[img];
imgResizedSize = ImageDimensions[imgResized];
centerPoint = {imgResizedSize[[1]]/2, imgResizedSize[[2]]/2};
rectangle[imgSize_, width_, relCenter_] := Module[{centerPoint},
   centerPoint = {imgSize[[1]] * relCenter[[1]], imgSize[[2]] * relCenter[[2]]};
   Rectangle[centerPoint - width/2, centerPoint + width/2]
  ];
width = 25;
```

```
Manipulate[
 Row[{
   LocatorPane[Dynamic[p],
    Show[
     imgResized,
     Graphics[{EdgeForm[Directive[Thick, Green]],
       FaceForm[None], Dynamic@rectangle[imgResizedSize, width, p/imgResizedSize]}],
     Graphics[Locator[Dynamic[p], Appearance → Medium, Background → Red]]
    ], Appearance → None
   ],
   Show[
    Block[{σI},
     σI = Sqrt[σ^2 - 0.5^2];
     ImageConvolve[img, GaussianMatrix[{Ceiling[6 * σI] + 1, σI}]]
    ],
    Graphics[{EdgeForm[Directive[Thick, Green]],
      FaceForm[None], Dynamic@rectangle[imgSize, width * σ/0.5, p/imgResizedSize]}]
   ]
  }]
 , {σ, 0.5, 10}, {{p, centerPoint}, None}]
```



```
Show[ImageConvolve[img, {{0., 0., 0.}, {0., 1., 0.}, {0., 0., 0.}}],

]
```