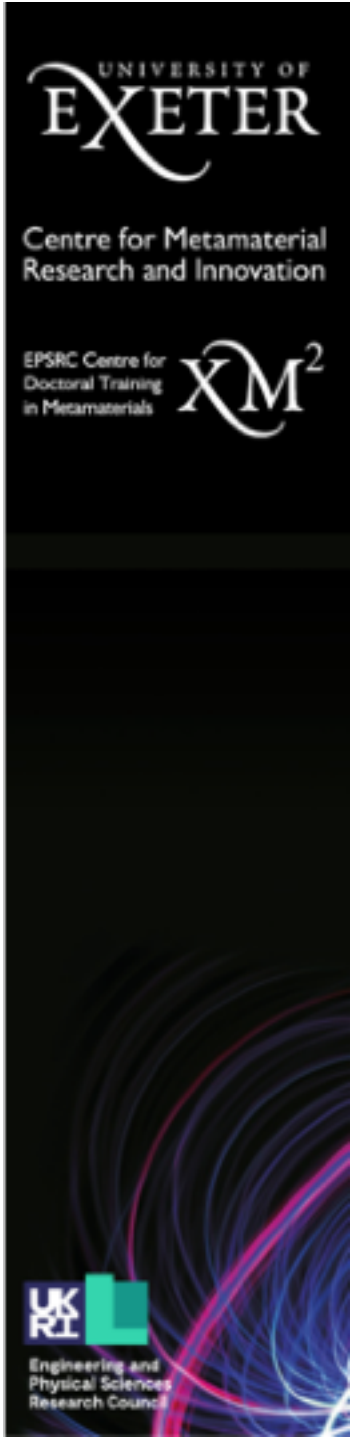
UNIVERSITY OF EXETER

Centre for Metamaterial Research and Innovation

EPSRC Centre for Doctoral Training in Metamaterials

XM²



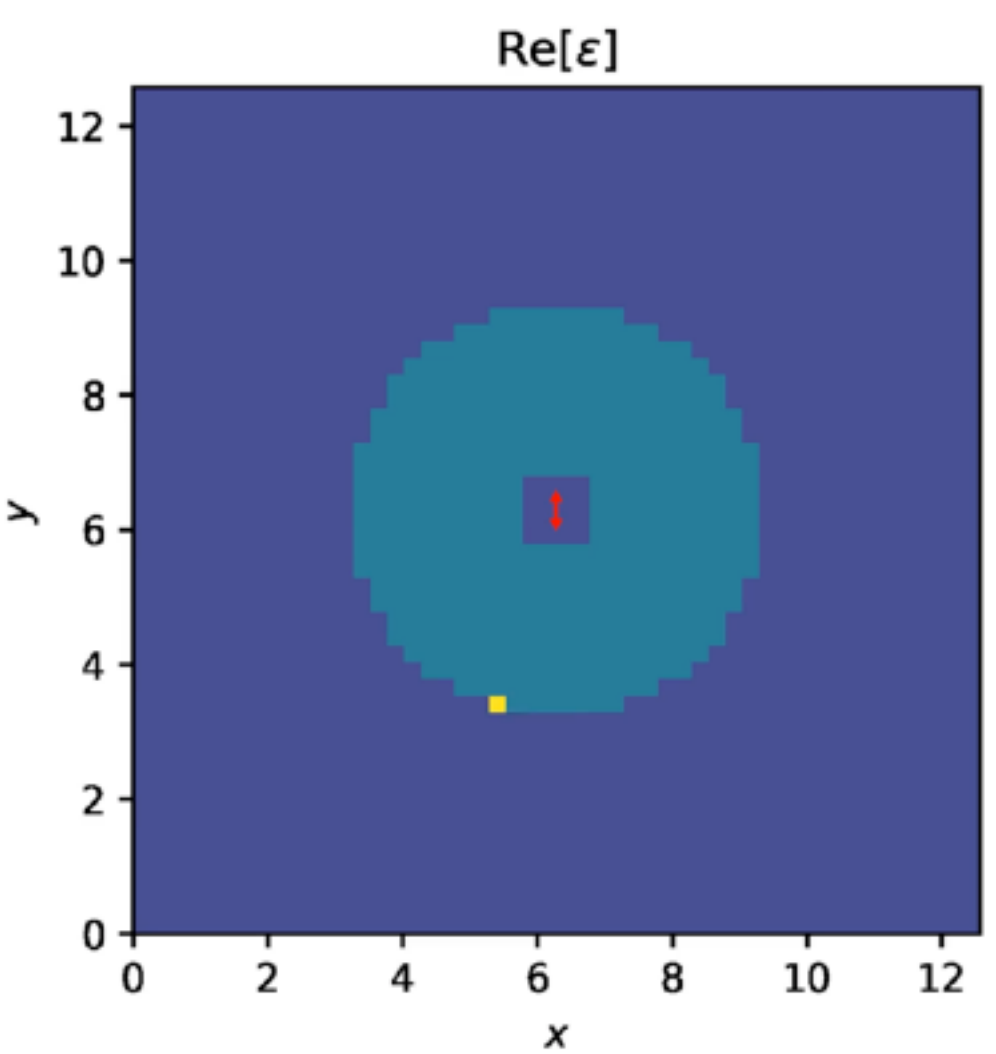
UKRI Engineering and Physical Sciences Research Council

www.metamaterials.center

A Slow Way of Optimising

Emitter polarisation **p**

Emitter location **r’**


Re[ε]
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10
8
6
4
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y
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4
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8
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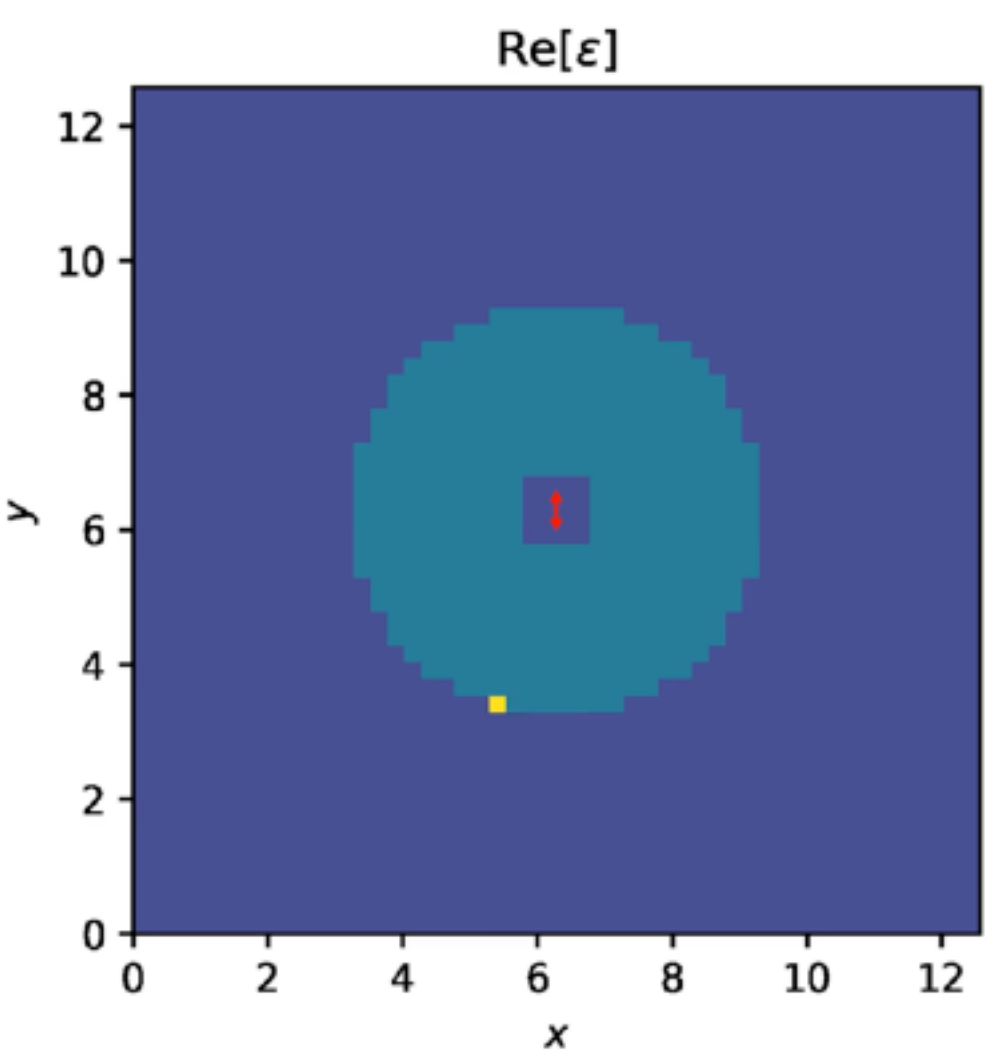
12
x


Re[ε]
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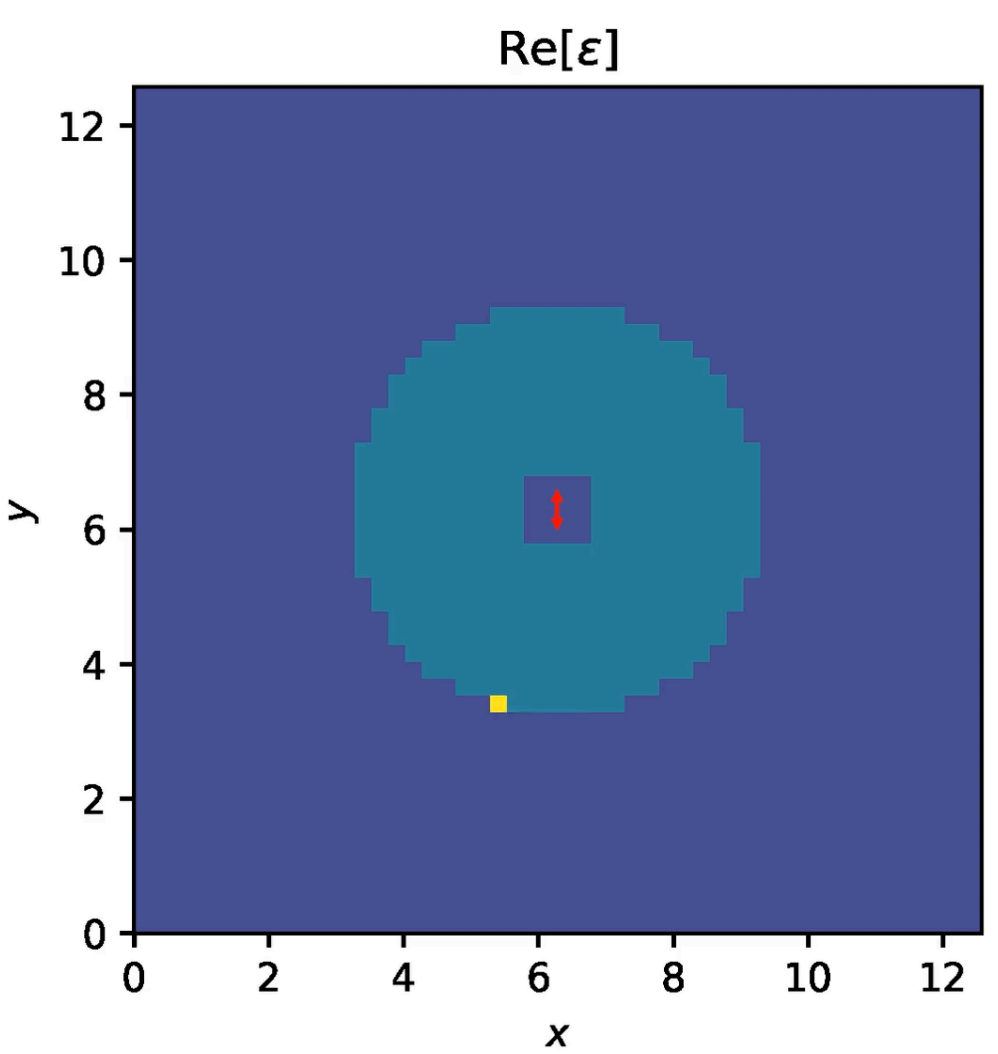
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A Slow Way of Optimising

Emitter polarisation **p**
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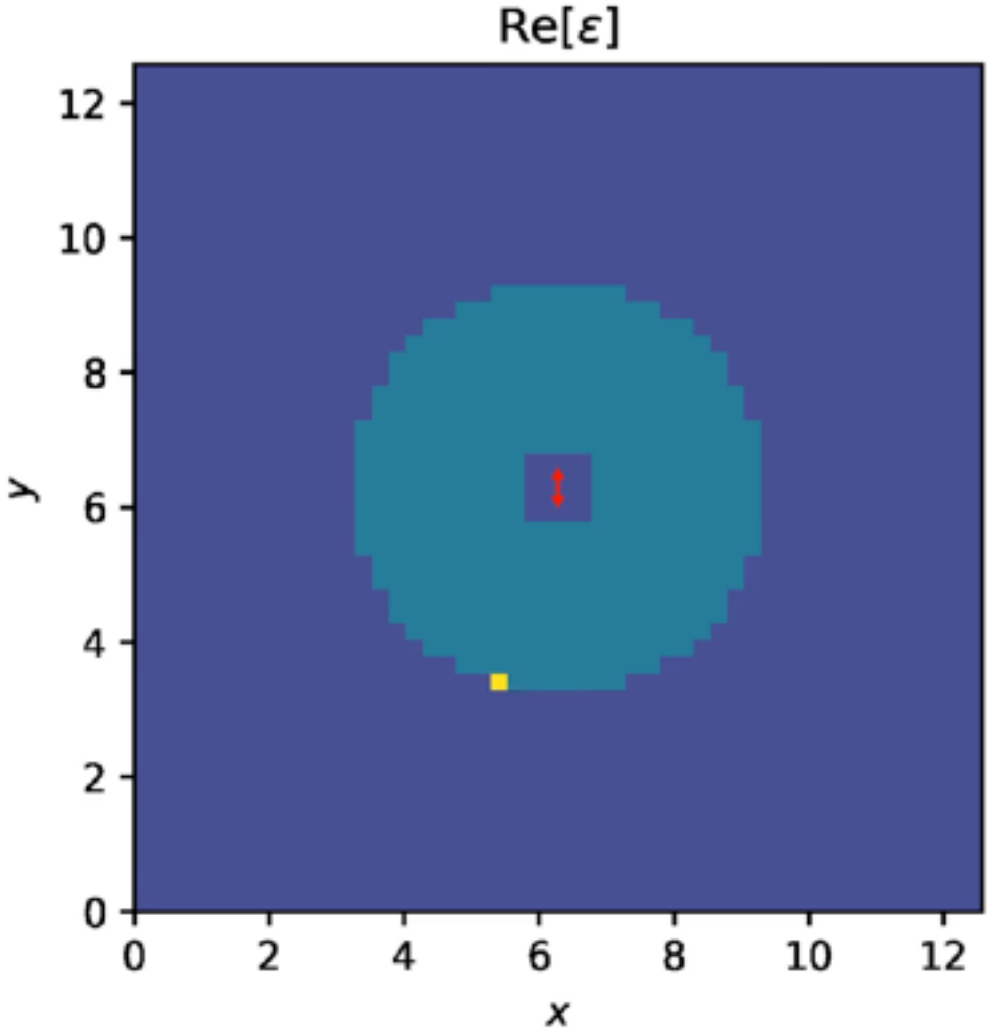
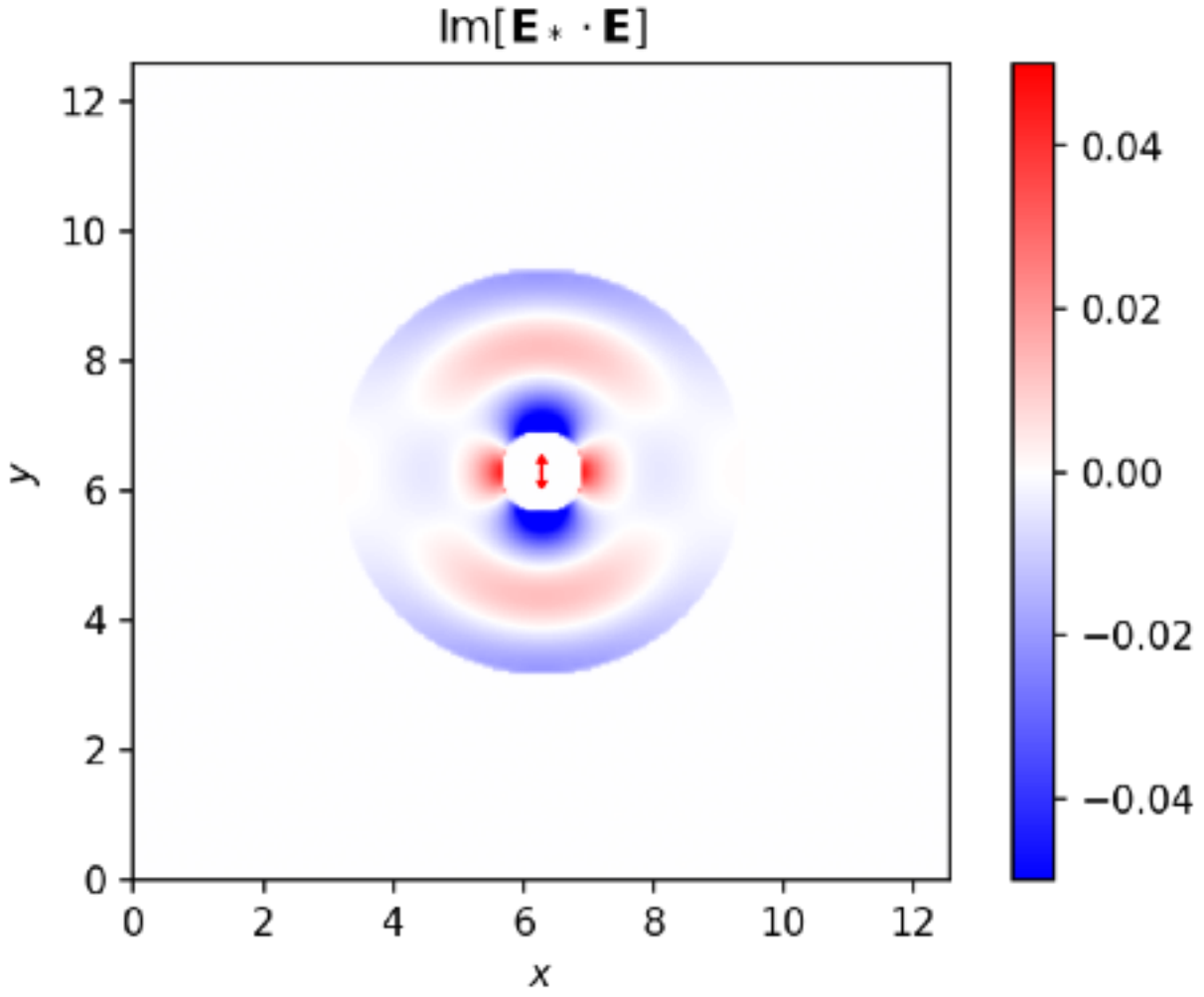


The Adjoint Method

$$P = -\frac{1}{2}\mathrm{Im}\left[\boldsymbol{p}^* \cdot \boldsymbol{E}(\boldsymbol{r}')\right]$$

$$\frac{\delta P}{\delta \varepsilon} = \frac{1}{2}\mathrm{Im}\left[\boldsymbol{E}_*(\boldsymbol{r}) \cdot \boldsymbol{E}(\boldsymbol{r})\right]$$



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