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# direct image

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|---|---|
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If $f : X \to Y$ is a continuous map of topological spaces and $\mathcal{F}$ is a sheaf on $X$, the *direct image* sheaf, $f_*\mathcal{F}$ on $Y$ is defined by
$$(f_*\mathcal{F})(V) = \mathcal{F}(f^{-1}(V))$$
for open sets $V \subset Y$, with the restriction maps induced from those of $\mathcal{F}$.