

A magnetic field applied in the \uparrow direction aligns valence electrons in the \uparrow direction leaving more hole states in the \downarrow direction

For the L_3 transition ($2p_{3/2} \rightarrow 3d$), X-rays with \uparrow circular polarization are more likely to excite spin \downarrow electrons into the hole states than spin \uparrow electrons into the hole states

For the L_2 transition ($2p_{1/2} \rightarrow 3d$), spin-orbit coupling is opposite ($l-s$ instead of $l+s$), so the excitation's spin sensitivity is opposite

