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On Summand Sum and Summand Intersection Property of Modules

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 [Keywords](#)
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Abstract: R will be an associative ring with identity and modules M will be unital left R -modules. In this work, extending modules and lifting modules with the SSP (or SIP) are studied. A necessary and sufficient condition for a module M to have the SSP is that for every decomposition $M = A \oplus B$ and $f \in \text{Hom}(A, B)$, $\text{Im}(f)$ is a direct summand of B . Among others it is shown also that a (C_3) module with the SIP has the SSP, and a (D_3) module with SSP has the SIP.

Key Words: SIP modules, SSP modules, extending modules, lifting modules.



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