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**Title:** Recollements associated to cotorsion pairs over upper triangular matrix rings

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Let  $A, B$  be two rings and  $T = \begin{pmatrix} A & M \\ 0 & B \end{pmatrix}$  with  $M$  an  $A$ - $B$ -bimodule. Suppose that we are given two complete hereditary cotorsion pairs  $(\mathcal{A}_A, \mathcal{B}_A)$  and  $(\mathcal{C}_B, \mathcal{D}_B)$  in  $A$ -Mod and  $B$ -Mod, respectively. We define two cotorsion pairs  $(\Phi(\mathcal{A}_A, \mathcal{C}_B), \text{Rep}(\mathcal{B}_A, \mathcal{D}_B))$  and  $(\text{Rep}(\mathcal{A}_A, \mathcal{C}_B), \Psi(\mathcal{B}_A, \mathcal{D}_B))$  in  $T$ -Mod and show that both of these cotorsion pairs are complete and hereditary. If we are given two cofibrantly generated model structures  $\mathcal{M}_A$  and  $\mathcal{M}_B$  on  $A$ -Mod and  $B$ -Mod, respectively, then using the result above, we investigate when there exists a cofibrantly generated model structure  $\mathcal{M}_T$  on  $T$ -Mod and a recollement of  $\text{Ho}(\mathcal{M}_T)$  relative to  $\text{Ho}(\mathcal{M}_A)$  and  $\text{Ho}(\mathcal{M}_B)$ . Finally, some applications are given in Gorenstein homological algebra.

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