

Corrigendum to "A Decomposition Approach for Undiscounted Two-Person Zero-Sum Stochastic Games"

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Lemma 1 and its proof are erroneous and should be replaced by the following facts.

Fact 1. The collection of maximal communicating classes defines a unique partition of the state space.

Fact 2. The strongly communicating classes may not be disjoint (as seen in the following example).

Example. (due to Eilon Solan)

$$\begin{array}{ccc} \begin{bmatrix} r_{111} \\ 3 \end{bmatrix} & \begin{bmatrix} r_{211} \\ 3 \end{bmatrix} & \begin{bmatrix} r_{311} & r_{312} \\ 1 & 4 \\ r_{321} & r_{322} \\ 4 & 2 \end{bmatrix} & \begin{bmatrix} r_{411} \\ 4 \end{bmatrix} \\ i = 1 & i = 2 & i = 3 & i = 4 \end{array}$$

In this example, the strongly communicating classes are $\{1, 3\}$, $\{2, 3\}$ and $\{4\}$. On the other hand, $\{1, 2, 3\}$ is an open maximal communicating class and $\{4\}$ is a closed maximal communicating class.

The algorithm presented in this paper depends only on the unique partitioning of the state space into maximal communicating classes. Thus, these changes do not affect the remainder of the article.

Acknowledgement. The authors would like to thank Eilon Solan for bringing this discrepancy to their attention.