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The graph $\mathcal{G}_0$ and the shift graph, $\mathcal{G}_S$ are one of the earliest introduced examples in Borel combinatorics, see [Kechris et al., 1999]. We prove that these graphs are universal in the following sense. If $f : X \to X$ is an acyclic Borel function on the standard Borel space X, then there is a homomorphism from the assosiated graph, $\mathcal{G}_f$ to the shift graph $\mathcal{G}_S$. Moreover, if $\mathcal{G}$ is an acyclic, hyperfinite Borel graph on a standard Borel space, then there is a homomorphism from $\mathcal{G}$ to $\mathcal{G}_0$. This is joint work with Zoltán Vidnyánszky.

References

[Kechris et al., 1999] Kechris, A. S., Solecki, S., and Todorcevic, S. (1999). Borel chromatic numbers. *Advances in Mathematics*, 141(1):1–44.