## OPERATORS IN MINIMAL SPACES WITH HEREDITARY CLASSES

## AHMAD AL-OMARI and TAKASHI NOIRI

**Abstract.** Quite recently, a new minimal structure  $m_H^*$  has been introduced in [12] by using a minimal structure m and a hereditary class  $\mathcal{H}$ . In this paper, we introduce and investigate an operator  $\Gamma_{mH}^*$ ,  $(\star)$ -strongly m-codense hereditary class  $\mathcal{H}$  and a minimal structure m which is said to be m-compatible with a hereditary class  $\mathcal{H}$  in a hereditary m-space  $(X, m, \mathcal{H})$ .

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**Key words.** ( $\star$ )-strongly m-codense, hereditary class, minimal structure.

## REFERENCES

- [1] A. Al-Omari and T. Noiri, On  $\Psi_*$ -operator in ideal m-spaces, Bol. Soc. Parana. Mat. (3), **30** (2012), 53–66.
- [2] A. Al-Omari and T. Noiri, Local closure functions in ideal topological spaces, Novi Sad J. Math., 43 (2013), 139–149.
- [3] A. Al-Omari and T. Noiri, On operators in ideal minimal spaces, Mathematica, 58 (81), 1-2 (2016), 3-13.
- [4] A. Al-Omari and T. Noiri, A note on topologies generated by m-structures and  $\omega$ -topologies, Commun. Fac. Sci. Univ. Ank. Series A1, **67** (2018), 141–146.
- [5] A. Al-Omari and H. Al-Saadi, A topology via  $\omega$ -local functions in ideal spaces, Mathematica, **60** (83), 2 (2018), 103–110.
- [6] Á. Császár, Generalized topology, generalized continuity, Acta Math. Hungar., 96 (2002), 351–357.
- [7] Á. Császár, Modification of generalized topologies via hereditary classes, Acta Math. Hungar., 115 (2007), 29–35.
- [8] D. Janković and T.R. Hamlett, New topologies from old via ideals, Amer. Math. Monthly, 97 (1990), 295–310.
- [9] Y.K. Kim and W.K. Min, On operations induced by hereditary clsses on generlized topological spaces, Acta Math. Hungar., 137 (2012), 130–138.
- [10] K. Kuratowski, Topology, Vol. I, Academic Press, New York, 1966.
- [11] H. Maki, K.C. Rao and A. Nagoor Gani, On generalizing semi-open and preopen sets, Pure and Applied Mathematics Journal, 49 (1999), 17–29.
- [12] T. Noiri and V. Popa, Generalizations of closed sets in minimal spaces with hereditary classes, submitted.

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- [13] V. Popa and T. Noiri, On M-continuous functions, Anal. Univ. Dunărea de Jos Galaţi, Ser. Mat. Fiz. Mec. Teor., fasc. II, **18** (**23**), 1 (2000), 31–41.
- [14] V. Renukadevi and P. Vimaladevi, Note on generalized topological spaces with hereditary classes, Bol. Soc. Parana. Mat. (3), 32 (2014), 89–97.

Received July 16, 2018 Accepted November 12, 2018 Taibah University
College of Science
Department of Mathematics
P. O. Box 20003
Al Madinah Al Munawarah, Saudi Arabia
and
Al al-Bayt University
Faculty of Sciences
Department of Mathematics
P.O. Box 130095, Mafraq 25113, Jordan
E-mail: omarimutah1@yahoo.com

2949-1 Shiokita-cho, Hinagu, Yatsushiro-shi Kumamoto-ken, 869-5142 Japan E-mail: t.noiri@nifty.com