J. Adv. Math. Stud.
Vol. **8**(2015), No. 1, 53-59
http://journal.fairpartners.ro

SYMMETRIC BI-MULTIDERIVATIONS ON INCLINE ALGEBRAS

SH. REZAPOUR AND S. SAMI

Abstract. In this paper, we introduce the notion of symmetric bi-multiderivations on incline algebras and investigate some properties of the notion.

REFERENCES

[1] S.S. Ahn, Y.B. Jun and H.S. Kim: *Ideals and quotients of incline algebras*, Commun. Korean Math. Soc., **16**(2001), 573-583.
[2] S.S. Ahn and H.S. Kim: *On r-ideals in incline algebras*, Commun. Korean Math. Soc., **17**(2002), 229-235.
[3] N.O. Alshehri: *On derivations of incline algebras*, Sci. Math. Jpn., **71**(2010), 199-205.
[4] A.J. Bell: *The co-information lattice*, 4^{th} Int. Symposium on Independent Component Analysis and Blind Signal Separation (ICA 2003), Nara, Japan, 2003, 921-926.
[5] H.E. Bell and G. Mason: *On derivation in near rings and near-fields*, North-Holland Mathematics Studies , **137**(1987), 31-35.
[6] H.E. Bell and L.C. Kappe: *Rings in which derivations satisfy certain algebraic conditions*, Acta Math. Hungar., **53**(1989), 339-346.
[7] Z.Q. Cao, K.H. Kim and F.W. Roush: *Incline algebras and applications*, Ellis Horwood Series: Mathematics and Its Applications, Ellis Horwood, Chichester, UK, 1984.
[8] C. Carpineto and G. Romano: *Information retrival trough hybrid navigation of lattice representation*, Intern. J. Human-Comput. Stud., **45**(1996), 553-578.
[9] C. Degang, Z. Wenxiu, D. Yeung and E.C.C. Tsang: *Rough approximations on complete distributive lattice with applications to generalized rough sets*, Inform. Sci., **176**(2006), 1829-1848.
[10] G. Durfee: *Cryptanalysis of RSA using algebraic methods*, A Dissetation submitted to the department of computer science and the committee on graduate studies of Stanford University, 2002, 1-114.
[11] S.C. Han: *A study on incline matrices with indices*, Ph. D. Dissertation, Beijing Normal University, China, 2005.
[12] R.H. Haghi, Sh. Rezapour and N. Shahzad: *Some fixed point generalizations are not real generalizations*, Nonlinear Anal., 74(2011), 1799-1803.
[13] A. Honda and M. Grabisch: *Entropy of capacities on lattices and set systems*, Inform. Sci., **176**(2006), 3472-3489.
[14] Y.B. Jun, S.S. Ahn and H.S. Kim: *Fuzzy subinclines (ideals) of incline algebras*, Fuzzy Sets and Systems, **123**(2001), 217-225.
[15] F. Karacal: *On direct decomposability of strong negations and S-implication operators on product lattices*, Inform. Sci., **176**(2006) 3011-3025.
[16] K. Kaya: *Prime rings with α-derivations*, Bull. Mater. Sci. Eng., 1987, 63-71.
[17] G.Y. Maksa: *A remark on symmetric biadditive functions having nonnegative diagonalization*, Glas. Mat. Ser. III, **15**(1980), 279-282.
[18] G.Y. Maksa: *On the trace of symmetric bi-derivations*, C. R. Math. Acad. Sci. Soc. R. Can., **9**(1989), 303-307.

Received: August 20, 2014. *Revised*: December 10, 2014.
2010 *Mathematics Subject Classification*: 16Y60.
Key words and phrases: Derivation, ideal, incline algebra, symmetric bi-multiderivation.

©2015 Fair Partners Team for the Promotion of Science & Fair Partners Publishers

[19] S. Ozbal, A. Firat: *On f-derivations of incline algebras*, Accepted by Int. J. Pure Appl. Math., 2011.
[20] S. Ozbal, A. Firat: *On symmetric bi-derivations of incline algebras*, Int. Math. Forum, **6**(2011), 2031-2036.
[21] M.A. Ozturk, Y.B. Jun: *On the trace of symmetric bi-derivation in near-rings*, Int. J. Pure Appl. Math., **17** (1) (2004), 95-102.
[22] M.A. Ozturk, M. Sapanci: *On generalized symmetric bi-derivations in prime rings*, East Asian Math. J., **15**(1999), No. 2, 165-176.
[23] E. Posner: *Derivations in prime rings*, Proc. Amer. Math. Soc., **8**(1957), 1093-1100.
[24] R.S. Sandhu: *Role hierarchies and constraints for lattice-based access controls*, Proceedings of the 4^{th} European Symposium on Reasearch in Computer Security, Rome, Italy, 1996, 65-79.
[25] Sh. Rezapour and S. Sami: *Some properties of isotone and joinitive multiderivations on lattices*, To appear in Filomat, 2015.
[26] J. Vukman: *Symmetric bi-derivations on prime and semi-prime rings*, Aequationes Math., **38**(1989), 252-254.
[27] J. Vukman: *Two results concerning symmetric bi-derivations on prim rings*, Aequationes Math., **40**(1990), 181-189.
[28] X.L. Xin, T.Y. Li: *The fixed set of a derivation in lattices*, Fixed Point Theory Appl., 2012.
[29] X.L. Xin, T.Y. Li, J.H. Lu: *On derivation of lattices*, Inform. Sci., **178**(2008), 307-316.

Azarbaijan Shahid Madani University
Department of Mathematics
Azarshahr, Tabriz, Iran
E-mail address: `sh.rezapour@azaruniv.edu`

Azarbaijan Shahid Madani University
Department of Mathematics
Azarshahr, Tabriz, Iran