

Journal of the Korean Society for Industrial and Applied Mathematics

Volume 25 Issue 2 / Pages.39-53 / 2021 / 1226-9433(pISSN) / 1229-0645(eISSN)

Korean Society for Industrial and Applied Mathematics(한국산업응용수학회)

## WEIGHTED FRACTIONAL INEQUALITIES USING MARICHEV-SAIGO-MAEDA FRACTIONAL INTEGRAL OPERATOR

NALE, ASHA B. (DEPARTMENT OF MATHEMATICS, DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY);  
PANCHAL, SATISH K. (DEPARTMENT OF MATHEMATICS, DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY);  
CHINCHANE, VAIJANATH L. (DEPARTMENT OF MATHEMATICS, DEOGIRI INSTITUTE OF ENGINEERING AND MANAGEMENT STUDIES)  
Received : 2020.10.06 Accepted : 2021.04.21 Published : 2021.06.25

<https://doi.org/10.12941/jksiam.2021.25.039>

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### Abstract

In this paper, we investigate several new weighted fractional integral inequalities by considering Marichev-Saigo-Maeda (MSM) fractional integral operator.

### Keywords

Weighted fractional inequalities: Marichev-Saigo-Maeda fractional integral operator and inequality

### References

1. Anastassiou G. A., Fractional Differentiation Inequalities, Springer Publishing Company, Incorporated, New York, NY, 2009.
2. Baleanu D., Purohit S. D. and Agarwal P., On fractional integral inequalities involving Hypergeometric operators, Chinese Journal of Mathematics 2014, Article ID 609476, 1-5 (2014). <https://doi.org/10.1155/2014/609476>.
3. Chinchan V. L., and Pachpatte D. B., On some integral inequalities using Hadamard fractional integral, Malaya J. Math., 1(1), 62-66,(2012).
4. Chinchan V. L., On Chebyshev type inequalities using generalized k-fractional integral operator, Progr. Fract. Differ. Appl., 3(3), 219-226, (2017). <http://dx.doi.org/10.18576/pfda/030305>.
5. Chinchan V. L., and Pachpatte D. B., On some Gruss-type fractional inequalities using Saigo fractional integral operator, Journal of Mathematics, 2014 Article ID 527910, 1-9, 2014. <https://doi.org/10.1155/2014/527910>.
6. Choi J. and Purohit S. D., A Gruss type integral inequalities associated with Guss hupergeometric integral operator, Commun. Korean Math. Soc., 2(3) 0), 81-92, 2015. <https://doi.org/10.4134/CKMS.2015.30.2.081>
7. Curiel L. and Galue L., A generalization of the integral operators involving the Gruss hupergeometric function, Rev. Tech. Ingr. Univ. Zulia, 1(19), 17-22, 1996.
8. Dahmani Z., Some results associate with fractional integrals involving the extended Chebyshev, Acta Univ. Apulensis Math. Inform., 27, 217-224, 2011.
9. Kilbas A. A., Srivastava H. M. and Trujillo J. J., Theory and Application of Fractional Differential Equation, North-Holland Mathematical Studies Vol. E Isevier Science Publishers, Amsterdam, London and New York, 2006.
10. Kiryakova V., On two Saigo's fractional integral operator in the class of univalent functions, Fract. Calc. Appl. Anal., 9(2), 159-176, 2006. <http://hdl.handle.net/10525/1277>

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13. Purohit S. D., Sutar D. L. and Kalla S., Marichev-Saigo- Maeda fractional integration opreators of the Bessel functions,Le. Matematiche, LXVI, Fasc.I, 2 1-32, 2012.
  14. Saigo M., A remark on integral operators involving the Gauss hypergeometric functions, Math. Rep. Kyushu Univ, 11, 135-143, 1978.
  15. Somko S. G., Kilbas A. A. and Marichev O. I., Fractional Integral and Derivative Theory and Application, Gordon and Breach, Yverdon, Switzerland, 19 93.
  16. Houas M., Certain weighted integralinequalities involving the fractional hypergeometric operators, Scientia Series A: Mathematical Science, 27, 87-9 7, 2016.
  17. Tassaddiq A., Khan A., Rahman G., Nisar K. S., Abouzaid M. S. and Khan I., Fractional integral inequalities involving Marichev-Saigo-Maeda fractional i ntegral operator, J. Inequal. Appl., 185, 1-14,2020. <https://doi.org/10.1186/s13660-020-02451-4>
  18. Joshi S., Mittal E., Pandey R. and Purohit S., Some Gruss type inequalities involviing generalized fractional integral operator, Bulletin of the Transilva nia University of Brasov 12(61), 41-52 2019. <https://doi.org/10.31926/but.mif.2019.12.61.1.4>
  19. Joshi S., Mittal E. and Pandey R., some fractional integral inequalities involving appell hypergeometric function, J. Sci. Arts, 1, 23-30, 2016.
  20. Marichev O. I., Volterra equation of Mellin convolution type with a Horn function in the kernal, Izv. AN BSSR Ser. Fiz. Mat. Nauk 1, 128-129, 1974.
  21. Saigo M. and Maeda N., More generalization of fractional calculus, In: Rusev. P. Dimovski, I, Kiryakova, V(eds.) Transform methods and special Funct ions, Varna, 1996(Proc. 2nd intern.Workshop), 386-400. IMIBAS, Sofia 1998.
  22. Mishra V. N., Suthar D. L. and Purohit S. D., Marichev-Saigo-Maeda fractional calcus operators, Srivastava polynomials and generalized Mittag-Leffle r function, Cogent Mathematics, 4: 1320830, 1-11, 2017. <https://doi.org/10.1080/23311835.2017.1320830>
  23. Srivastava H. M. and Karlson P. W., Multiple gaussion hypergeometric series, Ellis Horwood Limited, New York, 1985.
  24. Saxena R. K. and Saigo M., Generalized fractional calculus of the H- function associated with the Appell function, J. Frac. Calc., 19, 89-104, 2001.
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