



## CURRICULUM VITAE



**Full Name:** Dr. Ma'mon Ahmad Abu Hammad

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**Google Scholar:**

<https://scholar.google.com/citations?user=x41emqoAAAAJ&hl=ar>

### 1. Personal Data

Date of Birth: 1/3/1969.

Nationality : Jordanian.

### 2. Education

- Ph.D (Mathematics / Statistics) ‘A’ 2008, University of Jordan.
- M.Sc (Mathematics / Statistics) ‘B’ 2004, University of Jordan.
- B.A (Mathematics) ‘B<sup>+</sup>’ 1992, Mutah University.

### 3. Ph.D. Dissertation

**Thesis title:** ‘Distributions Of Entropy Statistics’

**Research Synopsis :** Several articles treated asymptotic normality of MLE for entropy measures and applied them to several inferential problems. To study the effect of the



sample size on such approximation, this thesis provides the exact distribution of standardized version of MLE of the Shannon and Renyi entropies based on random sample from normal distribution  $N(\mu, \sigma^2)$ ,  $N(\theta, \theta)$ ,  $N(\theta, \theta^2)$ , gamma of three parameters, and its special cases: (Weibull( $\alpha, \theta$ ), Laplace( $\theta$ ), and Rayleigh( $\theta$ ) distributions), and compares their exact quantiles with quantiles of the asymptotic distribution of these statistics. Moreover, it suggests modified versions of that statistics and show that this modified versions are much closer to normality than the statistics which are given in the literature even for small samples. Moreover, it derives some properties of the MLE of Shannon and Renyi entropies of the distributions that are considered in this thesis.

The exact distributions of both the Shannon and the Renyi statistics are the same and follow the same extreme value distribution when these entropies are estimated based on random samples from  $N(\mu, \sigma^2)$ ,  $G(\alpha, \gamma, \theta)$ ,  $G(\alpha, \theta)$ , Weibull( $\alpha, \theta$ ), Laplace( $\theta$ ), and Rayleigh( $\theta$ ). However, in case of  $N(\theta, \theta)$  and  $N(\theta, \theta^2)$  the exact distributions are not easy to derive, so we have simulated their percentiles and showed that the distribution of the Shannon and the Renyi statistics are the same and they do not follow an extreme distribution.

#### **4. Employment**

2018- present: Al- Zaytoonah University.

2009- 2021 : Lecturer Part Time, University of Jordan. 2011-2012 : Lecturer Part Time, Princess Sumaya University for Technology.

2012-2018 : Princess Al Hussien bin Abdullah II Academy od Civil Protection.

2001-2015 : Director of the Private Office of HRH Princess Alia bint Al Hussein.

#### **5. Research Interests**

Fractional Differential Equations. Mathematical Statistics. mathematical analytical methods, information theory, modelling and simulation,dynamical system, fuzzy and fractional differential equations.

#### **6. Teaching Experience**

- Graduate Courses
  - Biostatistics (Master).
  - Mathematical Statistics (Master).
  - Probability Theory (Master).
  
- Undergraduate Courses
  - Stochastic Processes
  - Calculus I , II& III
  - Principle of Statistics
  - Biostatistics
  - Mathematics for business administration and social sciences
  - Ordinary Differential Equations



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- Linear Algebra I & II
- Probability Theory
- Applied Probability
- Mathematical Statistics
- Applied Statistics
- Probability and Statistics
- Special Functions

#### 7. Experience of Non-Academic Services

Type of Service	Name of Organization	Place/Country	Year
Officer	Jordan Armed Forces	Jordan	1988 2014
Director of the Private Office of HRH Princess Alia bint Al Hussein.	HRH Princess Alia bint Al Hussein office.	Jordan	2001-2016
Member of the supreme committee for management of the abattoir sector in Jordan assigned by the Prime Ministry.	Prime Ministry	Jordan	2010-2016

#### 8. Supervision of Graduate Research (Advisor)

Thesis Title (Master)	Student Name	Year
Bayesian estimation of the parameter laplace distribution using Lindley's approximation.	Zakrea Rabab'h Al-Zaytoonah University of Jordan.	2022-2023
Distributions of Entropies from Nakagami Distribution Sample	Afaf Al Sous Al-Zaytoonah University of Jordan.	2021-2022
Properties of Conformable Fractional Nakagami Probability Distribution	Dana Amr Al-Zaytoonah University of Jordan.	2020- 2022
Application of Conformable Fractional Pareto Probability Distribution	Duha Abu Judeh Al-Zaytoonah University of Jordan	2020- 2022

#### 9. Supervision of Graduate Research (Co-Advisor)



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Thesis Title (Master)	Student Name	Year
Bayes Estimation of the Parameters of the Kumaraswamy Probability Distribution	Azezah Hasan Al Abdallah Al-Zaytoonah University of Jordan	2021-2022
Applications and Properties of Conformable Fractional Gamma Three-Parameters Probability Distribution	Raneem Moh'd Alodat Al-Zaytoonah University of Jordan	2021-2022
Application of Conformable Fractional Weibull Probability Distribution	Sondos Rassem Al-Zaytoonah University of Jordan	2020– 2022
Properties of Conformable Fractional Lomax Probability Distribution	Murad Abu Sirrieh Al-Balqa Applied University	2020/2021
Bayes Estimation of the parameters of the Log- Normal Distribution.	Siham Abrikah The University of Jordan.	2019 - 2020
Goodness of Fit Test Based on Information Measure	Ayat Ayaserah The University of Jordan.	2015- 2016

## 10. Membership of Committees

1.	2023	Thesis Examiner: Alaa AL-Mashala, “A Study of the Stability for D-Fuzzy Implication”, Al-Zaytoonah University of Jordan.
2.	2020	Thesis Examiner: Hanneiah AL-Salahat, “Properties, Characterization and Bounds for Ex-tropy Measure of Record Statistics ”, The University of Jordan.
3.	2020	Thesis Examiner: Islam. A. AL-Maayteh, “Comparison among Six Algorithms for Generating Minimum Cost Trend Free Factorial Experiments”, The University of Jordan.

## 11. Community Service

1.	2020-2021	Member of the Council of the Faculty of Basic Science and Humanities in German Jordanian University
2.	2020-2022	Member of the Council of the Faculty of Science and Information Technology in Alzaytoonah University of Jordan.
3.	2010-2016	Member of the supreme committee for management of the abattoir sector in Jordan assigned by the Prime Ministry.



## **12. Publications**

- (1) **Ma'mon Abu Hammad**; Muhammad Khalid ; Albardari W. Alrowaily ; C. G. L. Tiofack ; S. A. El-Tantawy, Ion-acoustic cnoidal waves in a non-Maxwellian plasma with regularized  $\kappa$ -distributed electrons, *AIP Advances* 13, 105127 (2023).
- (2) Safyan Mukhtar\*, **Ma'mon Abu Hammad**, Rasool Shah, Albardari W. Alrowaily, Sherif M. E. Ismaeel, and Samir A. El-Tantawy, On the localized and periodic solutions to the time-fractional Klein-Gordan equations: Optimal additive function method and new iterative method, *Open Physics* 2023; 21(1): 20230116.
- (3) Wedad Albalawi; **Ma'mon Abu Hammad**; Muhammad Khalid ; Abdul Kabir; C. G. L. Tiofack; S. A. El-Tantawy, On the shock wave structures in anisotropy magnetoplasmas, *AIP Advances* 13, 105309 (2023).
- (4) **Ma'mon Abu Hammad**; Rasool Shah ; B. M. Alotaibi; Mohammed Alotiby ; C. G. L. Tiofack ; Albardari W. Alrowaily ; S. A. El-Tantawy, On the modified versions of  $(G'/G)$  -expansion technique for analyzing the fractional coupled Higgs system, *AIP Advances* 13, 105131 (2023).
- (5) **Ma'mon Abu Hammad**, Azezah Al Abdallah, Siham Ali Abrikah, Ghadeer Farraj, Distribution of Shannon Statistic from Exponential Sample, 2023 *International Conference on Information Technology (ICIT)IEE*,2023.
- (6) Afaf Mohammad Al Sous, **Ma'mon Abu Hammad**, Distribution of Shannon Statistic from Nakagami Sample, 2023 *International Conference on Information Technology (ICIT)IEE*,2023.
- (7) Afaf Mohammad Al Sous, **Ma'mon Abu Hammad**, Properties of Conformable Fractional Half-Normal Distribution, 2023 *International Conference on Information Technology (ICIT)IEE*,2023.
- (8) **Ma'mon Abu Hammad**, Hassan Al-Zoubi, Azezah Al Abdallah, Bayes Estimation of the Parameters of the Kumaraswamy Probability Distribution, 2023 *International Conference on Information Technology (ICIT)IEE*,2023.
- (9) Sondos Rasem, Amjed M Zraiqat, Waseem Ghazi Alshanti, Abdulkarim Farah, **Ma'mon Abu Hammad**, Bayesian Estimation for Inverse-Gaussian Distribution under Square Error Loss Function, 2023 *International Conference on Information Technology (ICIT)IEE*,2023.
- (10) Siham Ali Abrikah, Ghadeer Farraj, **Ma'mon Abu Hammad**, Bayes Estimators of the Log-Normal Distribution Parameters Using Lindley's Approximation, 2023 *International Conference on Information Technology (ICIT)IEE*,2023.



- (11) **Ma'mon Abu Hammad**, Maysoon Mustafa Mohmmad Qousini, Zakrea Mohammad Rabab'h, Approximate Bayes Estimators of Laplace Distribution under Linex Loss Function, *2023 International Conference on Information Technology (ICIT) IEE, 2023.*
- (12) **Ma'mon Abu Hammad**, Azezah Al Abdallah, Waseem Ghazi Alshanti, Siham Ali Abrikah, Application of Conformable Fractional Kumaraswamy Distribution, *2023 18th Iberian Conference on Information Systems and Technologies (CISTI) IEE, 2023.*
- (13) **Ma'mon Abu Hammad**, Iqbal Jebril, Shameseddin Mahmoud Alshorm, Iqbal Batiha, Nancy Abu Hammad, Numerical Solution for Fractional-Order Mathematical Model of Immune-Chemotherapeutic Treatment for Breast Cancer Using Modified Fractional Formula, *International Journal of Analysis and Applications*, 21(2023)
- (14) Abdul-Majid Wazwaz, Ma'mon Abu Hammad , Ali O. Al-Ghamdi , Mansoor H. Alshehri, Samir A. El-Tantawy, New (3+1)-Dimensional Kadomtsev–Petviashvili–Sawada–Kotera–Ramani Equation: Multiple-Soliton and Lump Solutions, *Mathematics*, 11(15):3395,(2023)
- (15) **Ma'mon Abu Hammad**, Albandari W. Alrowaily, Rasool Shah, Sherif M. E. Ismaeel and Samir A. El-Tantawy, Analytical analysis of fractional nonlinear Jaulent-Miodek system with energy-dependent Schrödinger potential, *Frontiers in Physics*, (11)2023.
- (16) **Ma'mon Abu Hammad**, Iqbal Jebril, Roshdi Khalil, Large Fractional Linear Type Differential Equations, *International Journal of Analysis and Applications*, 21 (2023)
- (17) Saima Noor,**Ma'mon Abu Hammad**, Rasool Shah, Albandari Alrowaily,Samir A. El-Tantawy, Numerical Investigation of Fractional-Order Fornberg–Whitham Equations in the Framework of Aboodh Transformation, *Symmetry* 15(7)(2023)
- (18) S. A. El-Tantawy, **Ma'mon Abu Hammad**, Badriah M. Alotaibi, Elsayed Tag-Eldin, Sherif. M.E. Ismaeel, Eman I. El-Awady, On the modulational of Schamel nonlinear Schrödinger equation and the associated envelope excitations in a degenerate relativistic quantum complex plasma, *Results in Physics*, 51 (2023)
- (19) Waseem Ghazi Alshanti,Iqbal Batiha,**Ma'mon Abu Hammad**,Roshdi Khalil, A novel analytical approach for solving partial differential equations via a tensor product theory of Banach spaces, *Partial Differential Equations in Applied Mathematics*, 8 (2023)
- (20) Sondos Rasem, Amer Dabahneh , **Ma'mon Abu Hammad**,Applications of Conformable Fractional Weibull Distribution, *International Conference on Mathematics and Computations,IACMC 2022: Mathematics and Computation*,(2023)pp 139–147
- (21) Dana Amr,**Ma'mon Abu Hammad**, Application of Conformable Fractional Nakagami Distribution, *International Conference on Mathematics*



*and Computations, IACMC 2023: Mathematics and Computation, (2023) pp 229–237.*

- (22) Iqbal Jebril, Ghada Eid, **Ma'mon Abu Hammad**, Duha AbuJudeh, Atomic Solution of Euler Equation, *International Conference on Mathematics and Computations, IACMC 2023: Mathematics and Computation, (2023)* pp 359–364.
- (23) Waseem Ghazi Alshanti, Iqbal Batiha, Ahmad Alshanty, Amjad Zraiqat, Iqbal Jebril, **Ma'mon Abu Hammad**, Perturbed Trapezoid Like Inequalities, *Science & Technology Indonesia*, 8(2)(2023), 205–211.
- (24) **Ma'mon Abu Hammad**, Humaira Yasmin, Rasool Shah, Badriah M. Alotaibi, Sherif. M. E. Ismaeel, S. A. El-Tantawy, On the Solutions of the Fractional-Order Sawada–Kotera–Ito Equation and Modeling Nonlinear Structures in Fluid Mediums, *Symmetry* 15(3)(2023):605
- (25) Waseem Ghazi Alshanti, Ahmad Alshanty, Amjad Zraiqat, Iqbal Jebril, **Ma'mon Abu Hammad**, Iqbal Batiha, Cubature Formula for Double Integrals Based on Ostrowski Type Inequality, *International Journal of Difference Equations*, 17(2)(2023) 379–387
- (26) Hassan Al-Zoubi, Tareq Hamadneh, **Ma'mon Abu Hammad**, Mutaz Al-Sabbagh, Mehmet Ozdemir, Ruled and Quadric Surfaces Satisfying  $\Delta IIN = \Delta N$ , *Symmetry*, 15(2)(2023), 300
- (27) Iqbal Batiha, Shameseddin Mahmoud Alshorm, Iqbal Jebril, and **Ma'mon Abu Hammad**, A Brief Review about Fractional Calculus, *International Journal of Open Problems in Computer Science and Mathematics*, 15(4) (2023), 39–56
  
- (28) Alvaro H. Salas, **Ma'mon Abu Hammad**, Badriah M. Alotaibi, Lamiaa S. El-Sherif and Samir A. El-Tantawy, Closed-Form Solutions to a Forced Damped Rotational Pendulum Oscillator, *Mathematics*, 10, 21, (2022).
- (29) Abdul-Majid Wazwaz, **Ma'mon Abu Hammad**, S.A. El-Tantawy, Bright and dark optical solitons for  $(3+1)$ -dimensional hyperbolic nonlinear Schrödinger equation using a variety of distinct schemes, *Optik - International Journal for Light and Electron Optics*, 270(2022).
- (30) Alvaro H Salas, **Mamon Abu Hammad**, Badriah M Alotaibi, Lamiaa S El-Sherif, Samir A El-Tantawy, Analytical and Numerical Approximations to Some Coupled Forced Damped Duffing Oscillators, *Symmetry*, 14(11) 2022.
- (31) Duha Abu Judeh and **Ma'mon Abu Hammad**, Applications of Conformable Fractional Pareto Probability Distribution, *Int. J. Advance Soft Compu. Appl.*, 14, (2), (2022), 115–124.
- (32) **Ma'mon Abu Hammad**, Iqbal H. Jebril, Iqbal M. Batiha and Amer Mansour Dababneh, Fractional Frobenius Series Solutions of Confluent  $\alpha$ -Hypergeometric Differential Equation, *Progress in Fractional Differentiation and Applications*, 8(2) (2022), 297–304.
- (33) **Ma'mon Abu Hammad**, Sharifa Alsharif, Alaa Shmasnah and R Khalil .Fractional Bessel differential equation and fractional Bessel functions, *Italian Journal of Pure and Applied Mathematics*, 47(2022), 521–531.



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- (34) **Ma'mon Abu Hammad**, Conformable Fractional Martingales and Some Convergence Theorems, *Mathematics*,(2021),(10),6.
- (35) Amer Dababneh, Amjad Zraiqat, Abdulkarim Farah, Hassan Al-Zoubi, **Ma'mon Abu Hammad**, Numerical methods for finding periodic solutions of ordinary differential equations with strong nonlinearity, *J. Math. Comput. Sci.*, (2021), 11(6), 6910- 6922.
- (36) Mutaz Al-Sabbagh, Hassan Al-Zoubi , Tareq Hamadneh , **Ma'mon Abu Hammad**, Tubular Surfaces of Finite Type Gauss map, *Journal for Geometry and Graphics*, (JGG),(2021), 25(1), 45- 52.
- (37) Amer Dababneh, **Ma'mon Abu Hammad**, Siham Ali Abrikah,Bilal Albarmawi, Amjad Zrekat, Conformable Fractional of Euler Type Equation, *2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT)*.
- (38) **Ma'mon Abu Hammad** ,Iqbal Jebril, Duha AbuJudeh, Yousef Dalahmeh, Siham Ali Abrikah, Properties of Conformable Fractional Rayleigh Probability Distribution, *2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT)*.
- (39) Iqbal Jebril ;**Ma'mon Abu Hammad**, Eman Nouh, Rahaf Hamidi, Yousef Dalahmeh, Salemah Almutlak, Properties of Conformable Fractional Gamma with two parameters Probability Distribution, *2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT)*.
- (40) **Ma'mon Abu Hammad**, Adnan M. Awad and Iqbal Jebril, Optimality of Bayesian Estimators: A Comparative Study Based on Exponential Progressive Type II Censored Data, *Journal of Statistics Applications & Probability*, Vol. 10, No. 2(2021), 453-465.
- (41) Raida I. Oudat , Heba S. Abualruz , Nazih KH. Abu Al-Shiek, Eman A. AL-Mashaqba, Rawan A. AL-Hiari, Hala A. Alsoukhni, **Ma'mon A. Abu Hammad**, Sickle Cell Disease in Jordan: The Experience of a Major Referral Center, *Medical Archives*, doi: 10.5455/medarh.2021.75.27-30.
- (42) Iqbal H. Jebrila , **Ma'mon Abu Hammad** , Ahmad R. Al Aboushic , Musa M. Salahdd Osamah Ibrahim Khalafe, User Satisfaction of Electric-Vehicles About Charging Stations (Home, Outdoor, and Workplace), *Turkish Journal of Computer and Mathematics Education*, Vol.12 No.3(2021), 3589-3593.
- (43) Iqbal H. Jebril , Amani Jablawi , **Ma'mon Abu Hammad** , Osamah Ibrahim Khalaf, Equivalences between fuzzy quantum logic complication and fuzzy coimplications classes, *Materials Today: Proceedings* (2021).
- (44) Amer Dababneh, B. Sami, **Ma'mon Abu Hammad**, Amjad Zraiqat. A new impulsive sequential multi-orders fractional differential equation with boundary conditions. *J. Math. Comput. Sci.* 10 (2020), No. 6, 2871-2890.
- (45) M. Mhailan, **M. Abu Hammad**,M. AL horani, R. Khalil, On Fractional Vector Analysis, *J. Math. Comput. Sci.* 10 (2020), No. 6, 2320-2326.
- (46) **Ma'mon Abu Hammad**, Alvaro H. Salas and S. A. El-Tantawy,New method for solving strong conservative odd parity nonlinear oscillators:



Applications to plasma physics and rigid rotator. *AIP Advances* 10, 085001 (2020), ISI.

- (47) **Ma'mon Abu Hammad**, A. Awad, R. Khalil. Properties of Conformable Fractional Chi-Square Probability Distribution, *J. Math. Comput. Sci.*, 10 (1239-1250), ISSN: 1927-5307.
- (48) **Ma'mon Abu Hammad**, A. Awad, R. Khalil and E. Aldabbas. Fractional Distributions and Probability Density Functions of Random Variables Generated Using FDE, *J. Math. Comput. Sci.*, 10(3)( 522-534).
- (49) **Ma'mon Abu Hammad**, Hamza Alzaareer, Hassan Al-Zoubi Hemen Dutta, Fractional Gauss hypergeometric differential equation, *Journal of Interdisciplinary Mathematics*, 22(7)( 1113–1121).
- (50) D. M. Moustafa , E. I. El-Awady, **Ma'mon Abu Hammad**, S. A. El-Tantawy, Alvaro H. Salas, Shreif M. E. Ismaeel, Impact of dust kinematic viscosity on the breathers and rogue waves in a complex plasma having kappa distributed particles, *Waves in Random and Complex Media*, 2019, ISI.
- (51) Roshdi Khalil, Mohammed AL Horani, **Mamon Abu Hammad**, Geometric Meaning of Conformable derivative Via Fractional Cords, *Journal of mathematics and computer science*. 2019, ISSN 2008-949X.
- (52) **Ma'mon Abu Hammad**, Bilal Albarmawi, A. Shmasneh, Amer Dababneh, Fractional Laguerre Equation and Fractional Laguerre Polynomials, *Journal of Semigroup Theory and Applications* , 2019, ISSN: 2051-2937
- (53) Amer Dababneh , Bilal Albarmawi , **Ma'mon Abu Hammad** , Amjad Zraiqat Al , Conformable Fractional Bernoulli Differential Equation with Applications, 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT).
- (54) Shatha Hasan, Mohammed Al-Smadi , Asad Freihet Omar Abu Arqub, **Ma'mon Abu Hammad**, Shaher Momani, Application of Power Series Method for Solving Obstacle Problem of Fractional Order' . , 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT).
- (55) **Ma'mon Abu Hammad** , Mohammad Alaroud Omar Abu Arqub , Reem Edwan , Mohammed Al-Smadi ,Shaher Momani ,Solving Fuzzy Fractional IVPs of Order 2B by Residual Power Series Algorithm, 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT).
- (56) **Ma'mon Abu Hammad**, Mohammed Al Horani, Alaa Shmasen, Roshdi Khalil, Ruduction of order of fractional differential equations, *Journal of Mathematical and Computational Science*, Vol 8, No 6 (2018), 683-688.
- (57) Rokiah Rozita Ahmad, **Ma'mon Abu Hammad**, Mohammed H Al-smadi, Mohammad alaroud, Omar abu arqub, Shaher Momani, numerical solutions of linear time - fractional klein-gordon equation by using power series approach, *ICFDA' 18 The International Conference on Fractional Differentiation and it's Applications at Jordan*, 10 SSRN 3284781.



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- (58) Mohammad Al Horani, **Ma'mon Abu Hammad**, Roshdi Khalil, Variation of Parameters for Local Fractional Non homogenous liner Differential Equations, *Journal of Mathematics and Computer Sciences*, *AMS Classification number: 26A33 ISI*.
- (59) **M.Abu Hammad**, R. Khalil , Systems of Liner Fractional Differential Equations, *Asian Journal of Mathematics and Computer Research*, *12.2 (2016): 120-126.*
- (60) Mohammed Al-smadi, Ased Freihat, **Ma'mon Abu Hammad**, Shaher Momani, Analytical approximations of partial differential equations of fractional order with multistep approach, *Journal of Computational and Theoretical Nanoscience*, *Vol. 13 n.11 (2016) pp. 7793-7801. ISI (IF:1.232).*
- (61) Shaher Momani, Omar Abu Arqub, **Ma'mon Abu Hammad**, Za'er Abo-Hammour, A residual power series technique for solving systems of initial value problems, *Applied Mathematics & Information Science* , *Vol. 10 (2016) 765-775. . ISI (IF:1.232).*
- (62) **M.Abu Hammad**, R. Khalil, Abel's Formula and Wronskian for conformable fractional differential equations, *International Journal of differential equations and Applications*, *V13, No,3,2014,177-183, ISSN:1311-2872.*
- (63) **M.Abu Hammad**, R. Khalil , Legender fractional differential equation and legender fractional polynomials, *International Journal of Applied Mathematical Research*, *3 (3) (2014) 214-219.*
- (64) **Abu Hammad**, Khalil R, Fractional Fourier Series with Applications, *American Journal of Computational and Applied Mathematics* *2014,4(6):187-191. ISI.*
- (65) **M.Abu Hammad**, R. Khalil, Conformable Fractional Heat Differential Equation, *International Journal of Pure Applied Mathematics*, *volume 94,no,2,2014,215-221,ISSN:1311-8080(PRINTED VERSION);ISSN:1314-3395 ( on- line version). ( scopus ).*
- (66) Awad,Adnan, **Abu Hammad ,Ma'mon**, Distribution of Shannon Statistic from Normal sample, *published in International Journal of statistics.2007 vol. LXV, n.3, pp.259-279.*

### 13. **Reference.**

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