home network to mass computer that is located all over the world is the reason for H=0.36 for outgoing BitTorrent traffic.

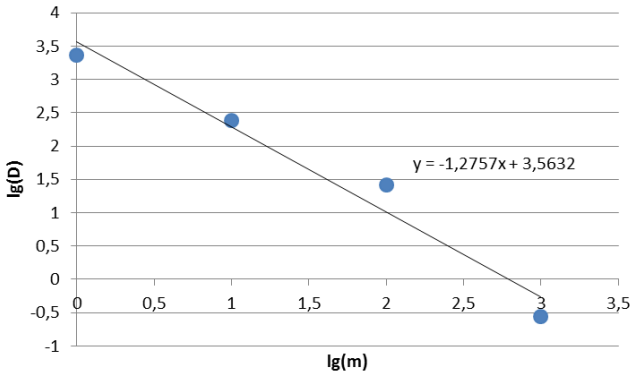

Figure 6. The Hurst parameter estimation by the analysis of change in dispersion method for outgoing BitTorrent traffic

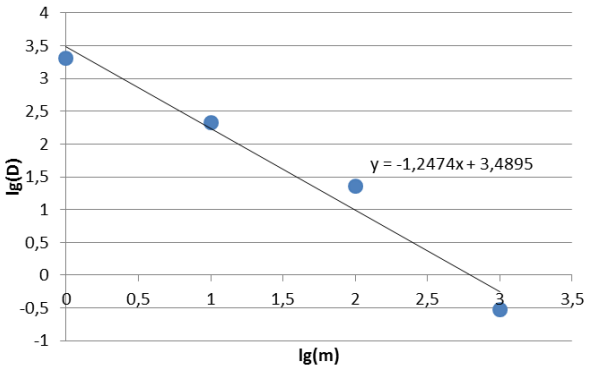

Figure 7. The Hurst parameter estimation by the analysis of change in dispersion method for incoming BitTorrent traffic

VI. M2M Traffic

The method of the analysis of change in dispersion for Hurst parameter calculation was used for estimation M2M traffic. The anti-persistent nature of M2M traffic was obtained in the [10] in case of mass event detection.

The Hurst parameter estimations by the analysis of change in dispersion method for outgoing and incoming M2M traffic are shown on the Figure 8 and Figure 9 respectively.

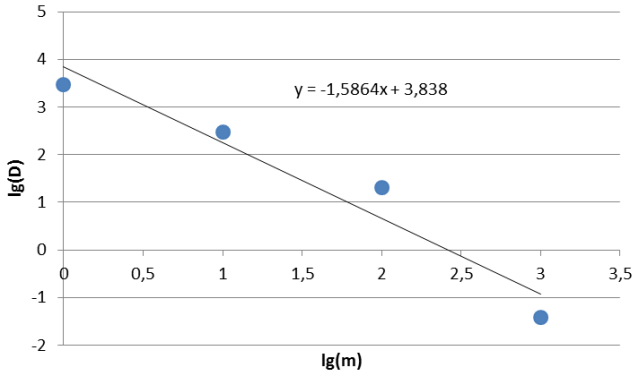

Figure 8. The Hurst parameter estimation by the analysis of change in dispersion method for outgoing M2M traffic

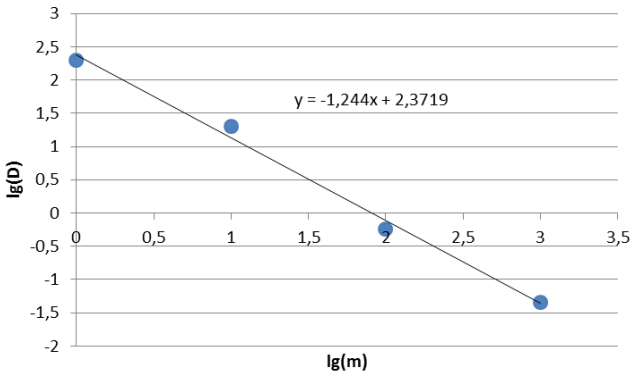

Figure 9. The Hurst parameter estimation by the analysis of change in dispersion method for incoming M2M traffic.

The Hurst parameter estimation for outgoing M2M traffic is H=0.21. The Hurst parameter estimation for incoming M2M traffic is H=0.38. Both estimations reveal the anti-persistent M2M traffic nature for the home networks. The outgoing M2M traffic is a traffic with big value of anti-persistent.

VII. Conclusions

In this paper we investigated the BitTorrent, Skype and M2M traffic on the home wireless network with PC, smartphone, tablet, WiFi router and sensor nodes. The test beds were used for investigation. The obtained results has shown that outcoming and incoming BitTorrent and M2M traffic have the anti-persistent features on the home network. The anti-persistent features of the BitTorrent and M2M traffic can deeply affect the quality of services and the quality of experience. The methods for anti-persistent traffic control on the home networks should be developed.

Future Work

In the future we will investigate M2M traffic effect to the IPTV quality of experience. Furthermore, the anti-persistent traffic scheduling methods for the home networks will be developed.

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