AN AUTOMATED SYSTEM TO CONSTRUCT HIGHER ORDER STEINER TRIPLE SYSTEM

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M.T.G.D.M JAYATHILAKA

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M.T.G.D.M Jayathilaka

Postgraduate Institute of Science
University of Peradeniya
Peradeniya
Sri Lanka

In this report an Automated System to Construct Higher Order Steiner Triple System is presented. In Combinatorics, we have different kind of sets and different kind of rules to arranging elements so that today these kinds of arrangements are widely used in so many applications such as in Telecommunication, Electronics, Computer Graphics, Networking and in many other Computer based applications.

Currently the major problem we are having on working with combinatorics is that construction of complex functions are done by paper based manual process and sometimes it takes days to resolve and hence it is error prone. This research shows the way of constructing STS (n) for larger values using computer base application so that it will be able to construct STS within less time and with fewer errors.

Since this application using parallel processing the we could overcome some of the problems like out of memory issues, time issues etc.

This research first describes the difference sets; Block designs, Tournaments, and constructed difference sets and then shown constructing Steiner triple system using graphical method and using a recursive constructing methods. After that it shows the way of constructing Higher Order STS.

When automating the system, high cohesive loosely coupled components which have different algorithms use to construct Higher Order Steiner Triple System have been used. And also system is capable of analyze the number entered whether to apply parallel processing or not. Applying parallel processing to construct higher order STS, gives results quickly and correctly.