**THESIS INFORMATION**

Thesis title: Maximal subgroups of skew linear groups.

Speciality: Algebra & Number theory.

Code: 62460104.

Name of PhD Student: Huynh Viet Khanh.

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Supervisors: 1. Prof. Dr. Bui Xuan Hai.

2. Assoc. Prof. Dr. Mai Hoang Bien.

At: VNUHCM - University of Science

1. SUMMARY:

This thesis is written with the intention of providing a study of maximal subgroups of a skew linear group. Our attention will focus on maximal subgroups in skew linear groups of very special type, namely, almost subnormal subgroups. The main subjects of this thesis are the maximal subgroups such subgroups of some special types, most notably maximal subgroups containing non-abelian free subgroups, solvable-by-finite maximal subgroups, and locally solvable maximal subgroups.

2. NOVELTY OF THESIS:

The main results obtained in thesis can be summarized as follows:

1. The results relating to maximal subgroups that contain a non-abelian free subgroup:

*Let be a non-commutative locally finite division ring with center and an almost subnormal subgroup of with . Assume that is a non-abelian maximal subgroup of If contains no non-cyclic free subgroups, then there exists a subfield of such that is a Galois extension, is a finite simple group, and is the Fitting subgroup of and .*

1. The results relating to solable-by-finite maximal subgroups:

*Let be a non-commutative division ring with center and an almost subnormal subgroup of with . Assume that is a non-abelian maximal subgroup of . If is solvable-by-finite, then and , there exists a subfield of such that is a Galois extension, is the Fitting subgroup of , is a finite simple group of order .*

1. The results relating to locally solvable maximal subgroups:

*Let be a non-commutative division ring with center and an almost subnormal subgroup of with . If contains a non-abelian locally solvable maximal subgroup then and the following assertions hold:*

*There exists a subfield of such that is a Galois extension with*

*and where is a prime number.*

*is FC-center and the Hirsch-Plotkin radical of . For each , we have and .*

3. APPLICATIONS/ APPLICABILITY/ PERSPECTIVE

The new results obtained in this thesis provide several interesting possibilities for future work. For example,

1. The existence of maximal subgroups of the multiplicative group of a non-commutative division ring.
2. The existence of abelian maximal subgroups of linear groups and skew linear groups.

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| **SUPERVISORS**  Bui Xuan Hai Mai Hoang Bien | **PhD STUDENT**  Huynh Viet Khanh |

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