A STUDY OF STAR COVERING SPACES

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August 10, 2010
DEDICATION

This work is dedicated to

My Mother

My father

My brothers and my sisters

My Supervisor Prof. Dr. Adnan-Al-Bsoul
ACKNOWLEDGEMENT

I want to give all my thanks and appreciation to my supervisor Prof. Dr. Adnan Al-Bsoul, who never delayed to give me his guidance and experience to finish this thesis. I am so grateful to his remarkable efforts and these few words are not enough to thank my brilliant Dr but thanks again.

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My sincere thanks to my friends ............... 

Eman A. Rawshdeh

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ABSTRACT

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In this thesis we studied some star covering spaces. Also, we studied some relations between star covering spaces and other well known spaces.

Moreover, we studied some topological operations on these spaces as: subspace, product, image and preimage.
الملخص

دراسة بالفضاءات الفضائية النجمية

إعداد

إيمان أحمد رواشده

المشرف

د. عدنان البصول

في هذه الرسالة قمنا بدراسة الفضاءات الفضائية النجمية. ثم قمنا بدراسة العلاقة بين هذه الفضاءات وفضاءات معروفة سابقاً. كذلك قمنا بدراسة أهم وأبرز الخصائص التويفولوجية لهذا النوع من الفضاءات مثل: الفضاءات الجزئية، الجناء........الخ.
Glossary of Notations

There are certain standard and all-pervasive notation and terminologies used by mathematicians. In addition, we use a few special notations with less currency.

The following notations will be used:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Notation</th>
</tr>
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<tbody>
<tr>
<td>$\mathbb{R}$</td>
<td>real numbers</td>
</tr>
<tr>
<td>$\mathbb{Z}$</td>
<td>integer numbers</td>
</tr>
<tr>
<td>$\mathbb{N}$</td>
<td>natural numbers</td>
</tr>
<tr>
<td>$\emptyset$</td>
<td>empty set</td>
</tr>
<tr>
<td>$x \in A$</td>
<td>$x$ is a member of $A$</td>
</tr>
<tr>
<td>$</td>
<td>A</td>
</tr>
<tr>
<td>$\mathfrak{c}$</td>
<td>the smallest cardinal greater than $\aleph_0$</td>
</tr>
<tr>
<td>$\omega$</td>
<td>the first infinite ordinal</td>
</tr>
<tr>
<td>$\omega_1$</td>
<td>the first uncountable ordinal</td>
</tr>
<tr>
<td>$\Omega$</td>
<td>the space $[1, \omega]$</td>
</tr>
<tr>
<td>$c$</td>
<td>the cardinality of the set of all real numbers</td>
</tr>
<tr>
<td>$\overline{A}$</td>
<td>the closure of $A$</td>
</tr>
</tbody>
</table>
Key words and phrases:

Star-Lindelöf, star-compact, countably star-compact, L-star-Lindelöf, K-star-compact, (acc), countably (acc), a-star-Lindelöf, (a)-space and extent of a space.