



Fig. 3. The repeated circle patterns.

pattern, we arranged papers so that one kind of circle pattern was drawn on the center of the paper. The size of paper is A5. In the case of repeated circle pattern, we arranged papers so that one kind of circle pattern was drawn on almost allover the paper. The size of paper is A4. The subjects were given no information about the ratio of the circle patterns beforehand. The subjects evaluated their first impressions of the circle patterns and replied the order of the favorite patterns. In addition, the subjects replied the imaged matters about the most favorite pattern. The subjects were students of faculty of engineering, and their family and their friends. In the case of singular circle pattern, the number of subjects was 59. In the number of subjects, men were 33 people, and women were 26 people. In the age, 28 people were from 15 to 22 years old, and 31 people were from 23 to 52 years old. In the case of repeated circle pattern, the number of subjects was 29. In the number of subjects, men were 23 people, and women were 6 people. In the age, all people were from 17 to 50 years old.

3. Results and Discussions

The results of analysis of impression are shown in Figs. 4, 5 and 6. The transverse axis shows the pattern number, and the longitudinal axis shows the frequency. In the results of favorite pattern, the “First” of the category shows the number of the subjects, who evaluated the object pattern as the most favorite. The “Second” and the “Third” of the category show the numbers of the subjects, who evaluated the object patterns as secondary and tertiary favorite respectively. In the results of hate pattern, the “First” of the category shows the number of the subjects, who evaluated the object pattern as the most hate. The “Second” and the “Third” of the category show the numbers of the subjects, who evaluated the object patterns as secondary and tertiary hate respectively. These results show the sum of the “First”, “Second” and “Third” on each pattern. The decision of the most favorite (or hate) pattern is as follows:

- 1) The first favorite (or hate) pattern for the most subjects.
- 2) The first favorite (or hate) pattern for the secondary many subjects.