1077-05-1834 **Robin Christian**, **R. Bruce Richter** and **Gelasio Salazar*** (gsalazar@ifisica.uaslp.mx).
Embeddability of infinite graphs.

Robertson and Seymour proved that there is a function $f(g)$ tending to infinity so that, if a graph G does not embed in any surface of Euler characteristic at least $2-2g$, then G has one of the following as a minor:

1. $f(g)$ disjoint copies of either $K_{3,3}$ or K_5;

2. $f(g)$ copies of either $K_{3,3}$ or K_5 that are disjoint except for a common vertex;

3. $f(g)$ copies of either $K_{3,3}$ or K_5 that are disjoint except for two common vertices; or

4. $K_{3,f(g)}$.

We have proved the following extension to infinite graphs.

Theorem. A countable graph G embeds in some orientable surface if and only if G does not contain as a minor one of the following graphs:

1. infinitely many disjoint copies of either $K_{3,3}$ or K_5;

2. infinitely many copies of either $K_{3,3}$ or K_5 that are disjoint except for a common vertex;

3. infinitely many copies of either $K_{3,3}$ or K_5 that are disjoint except for two common vertices; or

4. $K_{3,\infty}$.

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