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# DU CÔTÉ DE CHEZ ROKHLIN

The three papers that follow prove five famous theorems of V. A. Rokhlin.

These theorems are:

1. $\pi^s(3) \approx \mathbb{Z}_{24}$.
2. For a closed 4-manifold $M$ with $w_1(M) = w_2(M) = 0$ the signature $\sigma(M)$ is divisible by 16.
3. The fourth oriented cobordism group $\Omega_4$ is isomorphic to $\mathbb{Z}$.
4. For the signature $\sigma(M)$ of a closed 4-manifold $M$ we have $\sigma(M) = \frac{1}{3}\langle p_1(M), [M]\rangle$.
5. The third spin cobordim group $\Omega_3^{\mathrm{Spin}}$ vanishes.

The first paper proves the first two theorems, and uses mainly immersion theory, while the second one proves 3 and 4, and uses generic singular maps. The third paper proves the last theorem using handlebody decomposition and Kirby calculus.

With these papers we would like to express our great respect to V. A. Rokhlin, whose pioneering work decades before Donaldson's revolution showed onto the speciality of dimension 4.

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