LECTURE NOTES ON
**CHERN-SIMONS-WITTEN
THEORY**

Sen Hu

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Lecture Notes On Chern-Simons-Witten Theory

By Sen Hu

Wspc. Paperback. Book Condition: New. Paperback. 212 pages. Dimensions: 8.5in. x 6.0in. x 0.3in.This invaluable monograph has arisen in part from E Wittens lectures on topological quantum field theory in the spring of 1989 at Princeton University. At that time Witten unified several important mathematical works in terms of quantum field theory, most notably the Donaldson polynomial, the Gromov-Floer homology and the Jones polynomials. In his lectures, among other things, Witten explained his intrinsic three-dimensional construction of Jones polynomials via Chern-Simons gauge theory. He provided both a rigorous proof of the geometric quantization of the Chern-Simons action and a very illuminating view as to how the quantization arises from quantization of the space of connections. He constructed a projective flat connection for the Hilbert space bundle over the space of complex structures, which becomes the Knizhik-Zamolodchikov equations in a special case. His construction leads to many beautiful applications, such as the derivation of the skein relation and the surgery formula for knot invariant, a proof of Verlindes formula, and the establishment of a connection with conformal field theory. In this book, Sen Hu has added material to provide some of the details left out of Wittens lectures and to update...

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