Review of: "Two Intrinsic Formulae Generated by the Jones Polynomial"

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Potential competing interests: No potential competing interests to declare.

This paper notes two nice and simple intrinsic relations generated by the Jones polynomial for knots that, though the relations' *terms* can be generated by the Skein relations and Kaufmann bracket (once the relations are noticed), the relations themselves must be actually perceived, discovered, and first noticed in order to then realize that the Skein relations and Kaufmann bracket generate their terms. One of the polynomials is a Jones polynomial which signals a link with two components, whereas the other polynomials are Jones polynomials which signal only one-component links. The paper is simple, impressive, and of sufficient size. References are recent, and the title also suits the manuscript.

Article

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Two Intrinsic Formulae Generated by the Jones Polynomial

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Declarations

Abstract

This paper notes and derives two simple, intrinsic mathematical relations generated by the Jones polynomial.

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Keywords: Knot invariants; Jones polynomial; Links; Link invariants.

> *"Out of clutter, find simplicity." - John A. Wheeler (on Albert Einstein)*[1]

1. Introduction

This paper notes two nice and simple intrinsic relations generated by the Jones polynomial for knots that, though the relation's *terms* can be generated by the Skein relations and Kaufmann bracket (once the relation is noticed), the relations themselves must be actually perceived, discovered, and first noticed in order to then realize that the Skein relations and Kaufmann bracket generate their terms.

This author, in studying knots for the purpose of modeling the elementary particles of physics, has not found through due diligence these specific relations recognized or even alluded to in any journal article or book on knots or otherwise by any author. Perhaps they are too trivial to note? Or perhaps they just simply weren't noticed, until now. They are thus noted herein and derived, but in a novel way.

I contemplate the polynomials:

t–2–t–1+t0–t+t2�–2–�–1+�0–�+�2

t2–t3+2t4–2t5+3t6–2t7+t8–t9�2–�3+2�4–2�5+3�6–2�7+�8–�9

t3+t5–t8�3+�5–�8

–t–11+3t–10–5t–9+6t–8–8t–7+8t–6–6t–5+5t–4–2t–3+t–2–�–11+3�–10–5�–9+6�–8–8�–7+8�–6–6�–5+5�–4–2�–3+�–2

–t–4+t–3+t–2–�–4+�–3+�–2

t0–2t+4t2–5t3+6t4–6t5+6t6–4t7+2t8–t9�0–2�+4�2–5�3+6�4–6�5+6�6–4�7+2�8–�9

–t1/2–t5/2–�1/2–�5/2

t–5–2t–4+3t–3–3t–2+3t–1–3t0–2t–t2�–5–2�–4+3�–3–3�–2+3�–1–3�0–2�–�2

...Clutter. But staring long enough, an utterly simple (and so perhaps profound?) pattern emerges. Two of these polynomials are not like the others; in a very certain specific sense, they are not the same.

One of the polynomials is a Jones polynomial which signals a link with two components, whereas the other polynomials (excepting one other polynomial among them) are Jones polynomials which signal only one-component links. And one of the polynomials isn't a Jones polynomial at all. The author distinguished the two by simply reading the next sentence. These are the respective Jones polynomials , along with the last polynomial, which, we will see, is not even a Jones polynomial. The paper is simple and impressive and in sufficient size. References are recent, and the title also suits the manuscript. The paper can be published.