1. Isomorphisms of 3-dimensional Quantum Lens Spaces

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For the positive integers $p \geq 2$ and $m_1, \cdots, m_n$ being integers relatively prime to p, classical generalized lens spaces $L(p; m_1, \cdots, m_n)$ are manifolds defined as the orbit spaces of suitable free actions of a finite cyclic group Z_p on odd dimensional sphere S^{2n-1}. The quantum lens spaces, denoted by $L_q(p; m_1 m_2, \cdots, m_n)$ are quantization deformations of generalized lens spaces with a parameter $q \in [0, 1]$.

It is clear that the structure of $L_q(p; m_1, m_2, \cdots, m_n)$ depends on several parameters; quantization parameter q, positive integer n corresponding to the dimension, the size of the fundamental group p, and additional parameters $m_1 m_2, \cdots, m_n$ being integers relatively prime to p. In this note we focus on whether those parameters are actually independent on determining the structure of quantum lens spaces.

Since the study of the quantum manifolds often carried out by the C^*-algebras defined on themselves, we investigate the C^*-algebra $C(L_q(p; m_1, \cdots, m_n))$ of continuous functions on quantum lens spaces.
It is well-known that the C^*-algebra $C(L_q(p; m_1, \cdots, m_n))$ is defined as the fixed point algebra $C(S_q^{2n-1})^\lambda$, corresponding to a suitable action $\lambda : Z_p \to Aut(C(S_q^{2n-1}))$.
Followed by an explicit isomorphism between $C(S_q^{2n-1})$ and the graph algebra $C^*(L_{2n-1})$, we conclude the following.

Theorem 1. Let $p > 1$ be a fixed integer. If each of the numbers $m_1, \cdots, m_n$ is relatively prime to p, then the C^*-algebra $C(L_q(p; m_1, \cdots, m_n))$ is isomorphic to the

graph algebra $C^*\left(L_{2n-1}^{(p;m_1,\cdots,m_n)}\right)$.

Theorem 1 shows that the C^*-algebra $C(L_q(p;m_1,\cdots,m_n))$ are isomorphic to the graph algebras corresponding to certain graphs $L_{2n-1}^{(p;m_1,\cdots,m_n)}$ obtained from L_{2n-1}, and hence the isomorphism class of these algebras depend on n and p but it does not depend on q.

Even with this graphical approach which seems very simple, the natural question how these algebras depend on $m_1, m_2, \cdots, m_n$ is still open. In this note we showed that this open problem holds true for the case of 3-dimensional quantum lens spaces by examining the underlying graphs.

Theorem 2. Let $p > 1$ be a fixed integer. If each of m_1 and m_2 is relatively prime to p, then the C^*-algebras $C(L_q(p;m_1,m_2))$ on 3-dimensional quantum lens spaces are all isomorphic as C^*-algebras.

2. 갈조류 지충이(Sargassum thunbergii) 로부터 항산화 물질의 분리와 동정

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활성 산소종 (reactive oxygen species, ROS)과 활성 질소종 (reactive nitrogen species, RNS)에 의한 손상으로 인한 노화 진행은 신체 노화와 관련된 퇴행성 질환의 원인들 중 가장 합리적인 이론으로 알려져 있다. 본 연구에서는 부산연안에서 채집한 지충이를 추출, 분획 후 85% aq. MeOH fraction을 RP flash column chromatography 와 역상 HPLC 및 silica preparation TLC 로 분리하여 그 구조를 밝히고 효율적이고 안정한 새로운 항산화제 임을 확인하기 위하여 in vitro 상에서 superoxide anion ($\cdot O_2^-$)과 nitric oxide ($NO\cdot$)를 동시에 발생시키는 3-morpholinsydnonimine (SIN-1)와 authentic peroxynitrite ($ONOO^-$)그리