WHAT IS CLAIMED IS:

1. An improved loop modulator system for a comprehensive two-dimensional gas chromatograph, wherein the loop modulator system includes a cold gas jet assembly having a cold jet nozzle, a hot jet assembly having a hot jet nozzle, and a looped column of a modulator tube, wherein the cold gas jet assembly directs a flow of cold gas from the cold jet nozzle towards the looped column, wherein the hot jet assembly directs a flow of hot gas from the hot jet nozzle towards the looped column, the improvement comprising:

a collimator connected to the cold gas jet assembly for modifying the flow of cold gas from the cold jet nozzle to produce a modified flow of cold gas~~.~~, wherein said collimator has an opening at one end for securing the collimator to the cold gas jet assembly and an opening at an opposite end for modifying the flow of cold gas from the cold jet nozzle, wherein the looped column intersects the modified flow of cold gas, wherein the opening for modifying the flow of cold gas from the cold jet nozzle is oriented such that the modified flow of cold gas has a reduced cross-sectional area intersecting the looped column of the modulator tube.

~~2. The improved loop modulator system of claim 1 , wherein said collimator is a tubular member having an opening at one end for securing the collimator to the cold gas jet assembly and an opening at an opposite end for modifying the flow of cold gas from the cold jet nozzle.~~

~~3.~~2. The improved loop modulator system of claim ~~2~~ 1, wherein the collimator is secured to the cold jet nozzle of the cold gas jet assembly.

~~4. The improved loop modulator system of claim 2, wherein a portion of the looped column intersects the modified flow of cold gas.~~

~~5.~~3. The improved loop modulator system of claim 4 1, wherein the flow of hot gas intersects the modified flow of cold gas.

~~6.~~4. The improved loop modulator system of claim ~~5~~ 3, wherein the flow of hot gas intersects a portion of the looped column.

~~7.~~5. The improved loop modulator system of claim ~~2~~ 1, wherein the opening for modifying the flow of cold gas is an elongated opening~~, whereby the modified flow of cold gas has a reduced cross-section area~~.

~~8.~~6. The improved loop modulator system of claim ~~7~~ 5, wherein the elongated opening is a rectangular opening.

~~9. The improved loop modulator system of claim 7, wherein a portion of the looped column intersects the modified flow of cold gas.~~

~~10.~~7. The improved loop modulator system of claim ~~9~~ 6, wherein the flow of hot gas intersects the modified flow of cold gas.

~~11.~~8. The improved loop modulator system of claim ~~10~~ 7, wherein the flow of hot gas intersects a portion of the looped column.

~~12.~~9. A comprehensive two-dimensional gas chromatography system comprising:

a loop modulator system, wherein the loop modulator system comprises:

a cold gas jet assembly having a cold jet nozzle;

a hot gas jet assembly having a hot jet nozzle;

a looped column of a modulator tube, wherein the cold gas jet assembly directs a flow of cold gas from the cold jet nozzle towards the looped column, wherein the hot jet assembly directs a flow of hot gas from the hot jet nozzle towards the looped column; and

a collimator connected to the cold gas jet assembly for modifying the flow of cold gas from the cold jet nozzle to produce a modified flow of cold gas~~.~~; wherein said collimator has an opening at one end for securing the collimator to the cold gas jet assembly and an opening at an opposite end for modifying the flow of cold gas from the cold jet nozzle, wherein the looped column intersects the modified flow of cold gas, wherein the opening for modifying the flow of cold gas from the cold jet nozzle is oriented such that the modified flow of cold gas has a reduced cross-sectional area intersecting the looped column of the modulator tube.

~~13. The system of claim 12, wherein said collimator is a tubular member having an opening at one end for securing the collimator to the cold gas jet assembly and an opening~~

~~at an opposite end for modifying the flow of cold gas from the cold jet nozzle.~~

~~14.~~10. The system of claim ~~13~~ 9, wherein the collimator is secured to the cold jet nozzle of the cold gas jet assembly.

~~15. The system of claim 13, wherein a portion of the looped column intersects the modified flow of cold gas.~~

~~16.~~11. The system of claim ~~15~~ 9, wherein the flow of hot gas intersects the modified flow of cold gas.

~~17.~~12. The system of claim ~~16~~ 11, wherein the flow of hot gas intersects a portion of the looped column.

~~18.~~13. The system of claim ~~2~~ 9, wherein the opening for modifying the flow of cold gas is an elongated opening~~, whereby the modified flow of cold gas has a reduced cross-section area~~.

~~19.~~14. The system of claim ~~18~~ 13, wherein the elongated opening is a rectangular opening.

~~20. The system of claim 18, wherein a portion of the looped column intersects the modified flow of cold gas.~~

~~21.~~15. The system of claim ~~20~~ 13, wherein the flow of hot gas intersects the modified flow of cold gas.

~~22.~~16. The system of claim ~~21~~ 15, wherein the flow of hot gas intersects a portion of the looped column.