NASER
Technology

NASEROIL VISCO

INNOVATIVE NASER TECHNOLOGY
HYDROCARBON COMPOUNDS
DISINTEGRATION PROCESS

NASER TECHNOLOGY OÜ
NASER - Nanowave Amplification by Stimulated Emission of Radiation

Existing technologies of oil refining

Currently the existing disintegration of hydrocarbon compounds systems have a number of disadvantages

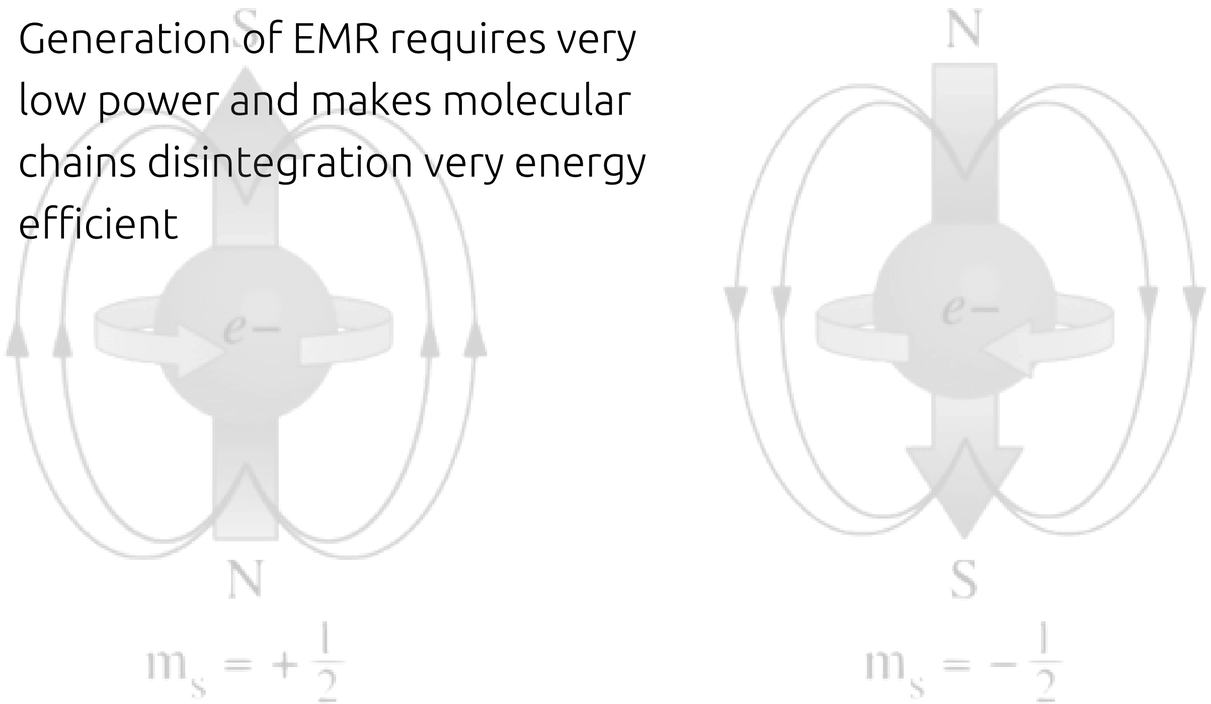
- Insufficiently high yield of light fractions
- Necessity of the use of sophisticated high-temperature processes
- High losses of thermal energy
- High cost of catalysts
- Problems related to high oil viscosity

What is the innovative technology designed for?

- In existing technologies of oil products processing the disintegration of hydrocarbon compounds is carried out with the use of high-temperature (up to 500°c and above) methods, expensive in all respects.
- The advanced method of generation of powerful electromagnetic waves allows to achieve the following effects quickly, effectively and with low energy costs
- Disintegration of long molecular chains in heavy oil, obtaining over 90% of light fractions C5-C8
- Reduction of raw materials viscosity facilitating oil transportation

What is the innovative technology designed for?

- Generated electromagnetic radiation (EMR) quickly and efficiently disintegrates long molecular chains of hydrocarbon compounds
- Disruption of chemical bonds in substance requires several tens of times less energy than when using other methods
- EMR disrupts long molecular chains into smaller ones thus increasing concentration of light fractions
- In industrial production it is carried out at temperature above 500^0C in the presence of catalysts
- Generation of EMR requires very low power and makes molecular chains disintegration very energy efficient



Laboratory results

The results of laboratory study of EMR impact on heavy oil

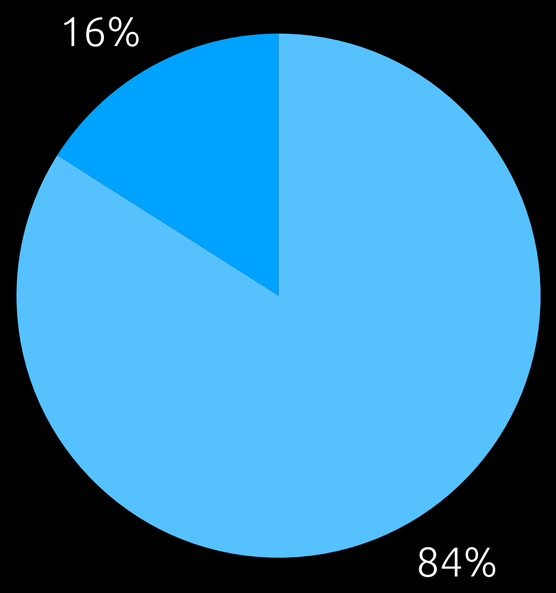
- Original oil contains low concentration of hydrocarbons forming part of benzine and diesel fuel fractions (See the Table of analysis results at p. 6, line 1)
- After affecting oil with electromagnetic radiation at ambient temperature in an open tank, concentration of hydrocarbons forming part of benzine, increased up to 95-97%.
- This is explained by the fact that EMR disrupted long molecules into smaller ones thus increasing the concentration of benzine fraction
- In industrial production this effect is achieved at temperature above 500°c with the use of catalysts

The results of NASEROil Visco EMR effect on heavy oil

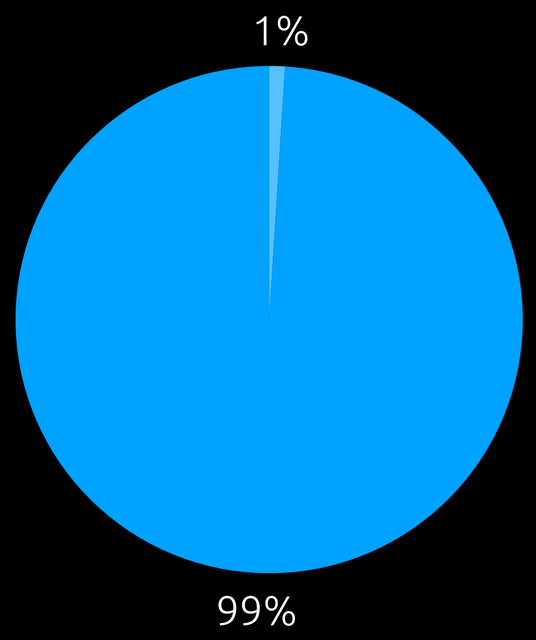
Sample number and name	Gasoline fraction			Diesel fraction	Other fractions
	Content of C5-C9, %	Content of C9-C12, %	Content of aromatic hydrocarbons, %	Content of C12-C19, %	
Original oil	5.39	0.128	1.481	9.31	83.691
Sample 1	88.03	0.69	5.3	5.98	0
Sample 2	96.72	0.17	2.08	1	0.03
Sample 3	93.19	0.89	4.25	1.66	0.01
Sample 4	93.04	0.91	3.97	2.07	0.01
Sample 5	96.62	0.34	1.9	1.14	0
Sample 6	93.45	0.66	4.61	1.28	0
Sample 7	97.3	0.28	1.58	0.84	0
Sample 8	94.1	0.81	1.8	3.2	0.09
Sample 9	90.1	0.09	3.47	4.63	1.71
Sample 9	93	0.1	3.8	3.07	0.03
Averaged result after processing	93.555	0.494	3.276	2.487	0.188

Summarized results of NASER Oil Visco heavy oil processing

Original Oil



Processed oil



NASEROil Visco — ecology friendly

- NASEROil does not require the use of toxic chemical components
- Low electricity consumption reduces the use of natural nature resources
- NASEROil reduces the volume of toxic waste refining

Work experience of the Naser Technology R&D department

- Research «The method of generation of electromagnetic radiation of waves of nanometer range by conduction electrons»
- Laboratory research «Destruction of molecular structure of hydrocarbon compounds»
- Laboratory research «The lighting line using MH lamps»
- Laboratory research «The electric power transmission line»

Laboratory research «The power unit of the MH lamp»

Laboratory research and production of nanohydrosols of metals and mineral substances

Laboratory research and manufacturing of cold cathode fluorescent lamps

Laboratoy research «Polymer power Engine with new physical principe»

Go forward…

Team

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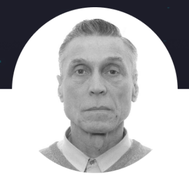

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New Advanced
Innovative Technology

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